ORDER NO. AD8904097C8

Service Manual

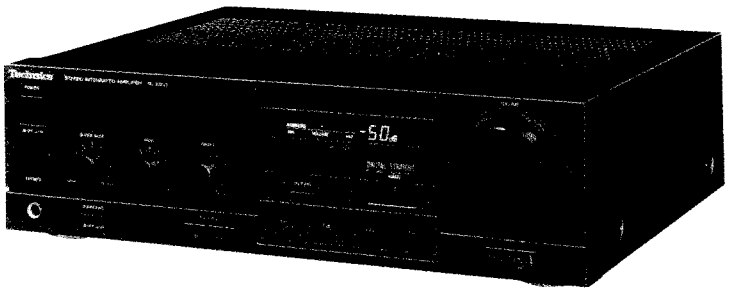
Amplifier

Digital Integrated Amplifier

SU-X933

Color

(K)...Black Type



Area

Country Code	Area	Color
(E), (E5)	Continental Europe	(K)
(EB)	Great Britain	(K)
(EG)	F.R. Germany & Italy	(K)
(GC)	Third Region	(K)
(GN)	New Zealand	(K)

SPECIFICATIONS

(DIN 45 500)

■ AMPLIFIER SECTION

DIN power output	
1 kHz THD: 1 %	2 × 50 W (8 Ω)
Total harmonic distortion	
rated power at 1 kHz	1 % (8 Ω)
Harmonic distortion	
half power at 1 kHz	0.03 % (8Ω)
Residual hum and noise	0.5 mV
Damping factor	30 (8 Ω)
Input sensitivity and impedance	
PHONO	3 mV/47 kΩ
TUNER, AUX, TAPE	200 mV/22 kΩ
CD	300 mV/15 kΩ
Maximum input voltage (1 kHz, RMS)	
PHONO	120 mV
S/N (rated power 8 Ω)	
PHONO	73 dB (IHF, A, 79 dB)
TUNER, CD, AUX, TAPE	84 dB (IHF, A: 83 dB)
Frequency response	
PHONO	RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, CD, AUX, TAPE	10 Hz~50 kHz (−3 dB)
Tone controls	
BASS	50 Hz, +10 dB~−10 dB
TREBLE	20 kHz, +10 dB~−10 dB
Muting	−20 dB
Super bass	70 Hz, 0~+10 dB
Output voltage	
TAPE REC OUT	200 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1.0 dB
Channel separation, AUX 1 kHz	55 dB
Headphones output level and impedance	473 mV/330 Ω
Load impedance	
MAIN	8 Ω~16 Ω
SURROUND	8 Ω~16 Ω

■ GENERAL

Power consumption	330 W
Power supply	
For Great Britain and New Zealand	AC 50 Hz/60 Hz, 240 V
For continental Europe	AC 50 Hz/60 Hz, 220 V
For others	AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W × H × D)	360 × 106.2 × 304 mm (14-3/16″ × 4-3/16″ × 12″)
Weight	5.3 kg (11.7 lb.)

Notes:

1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

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■ BEFORE REPAIR

(1) Turn off the power supply. Using a 10Ω, 5 W resistor connect both ends of power supply capacitors (C711, C712, 3300 μF) in order to discharge the voltage.

(2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50 Hz/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110 V/127 V/220 V/240 V.

Power supply voltage	AC 110 V	AC 127 V	AC 220 V	AC 240 V
Consumed current 50 Hz	100~500 mA	70~470 mA	50~250 mA	40~240 mA
Consumed current 60 Hz	97~476 mA	68~457 mA	49~244 mA	39~236 mA

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:
*No sound is heard when the power is switched ON.
*Sound stops during a performance.
The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.
If this occurs, follow the procedure outlined below:

1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

■ ACCESSORIES

- AC power supply cord 1
  Configuration of AC power supply cord differs according to area.

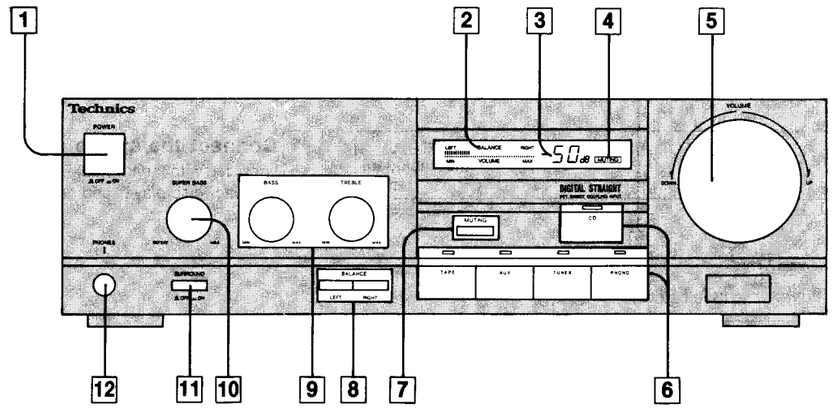
  SJA190 .....For (GN) area only.
  SJA188 .....For (EB) area only.
  RJA0004 .....For (GC) area only.
  SFDAC05E03 ....For others.

- Attachment AC plug 1

  SJP9215...For (GC) area only

■ LOCATION OF CONTROLS

•Front panel



1 **Power switch (POWER)**

2 **Volume level/balance indicator (BALANCE/VOLUME)**

3 **Volume-level indicator**

4 **Muting indicator (MUTING)**

5 **Volume control (VOLUME)**

6 **Input selectors/indicators**

7 **Audio muting switch (MUTING)**

8 **Balance controls (BALANCE)**

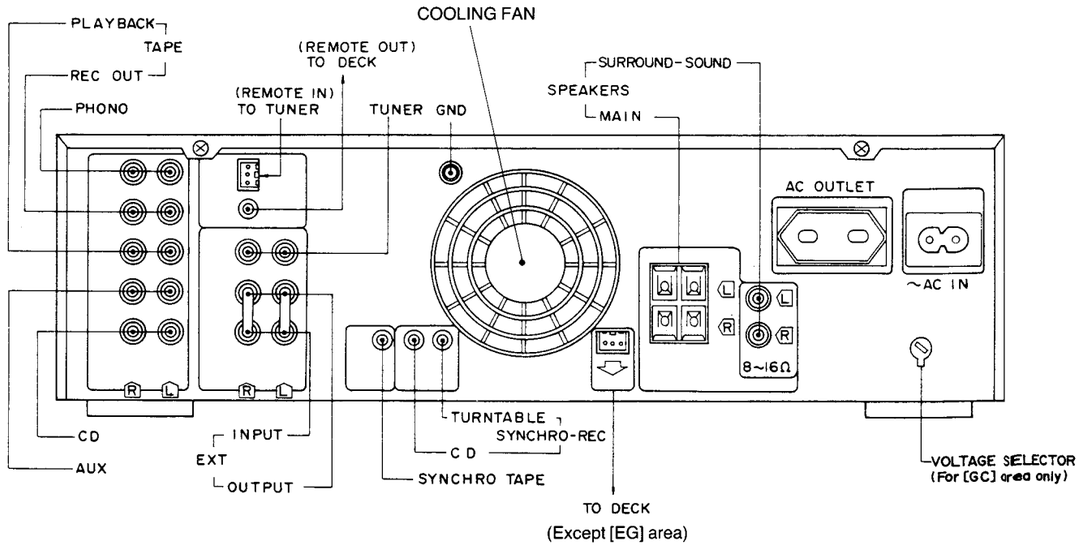
9 **Tone controls (BASS/TREBLE)**

10 **Super bass control (SUPER BASS)**

11 **Surround-sound switch (SURROUND)**

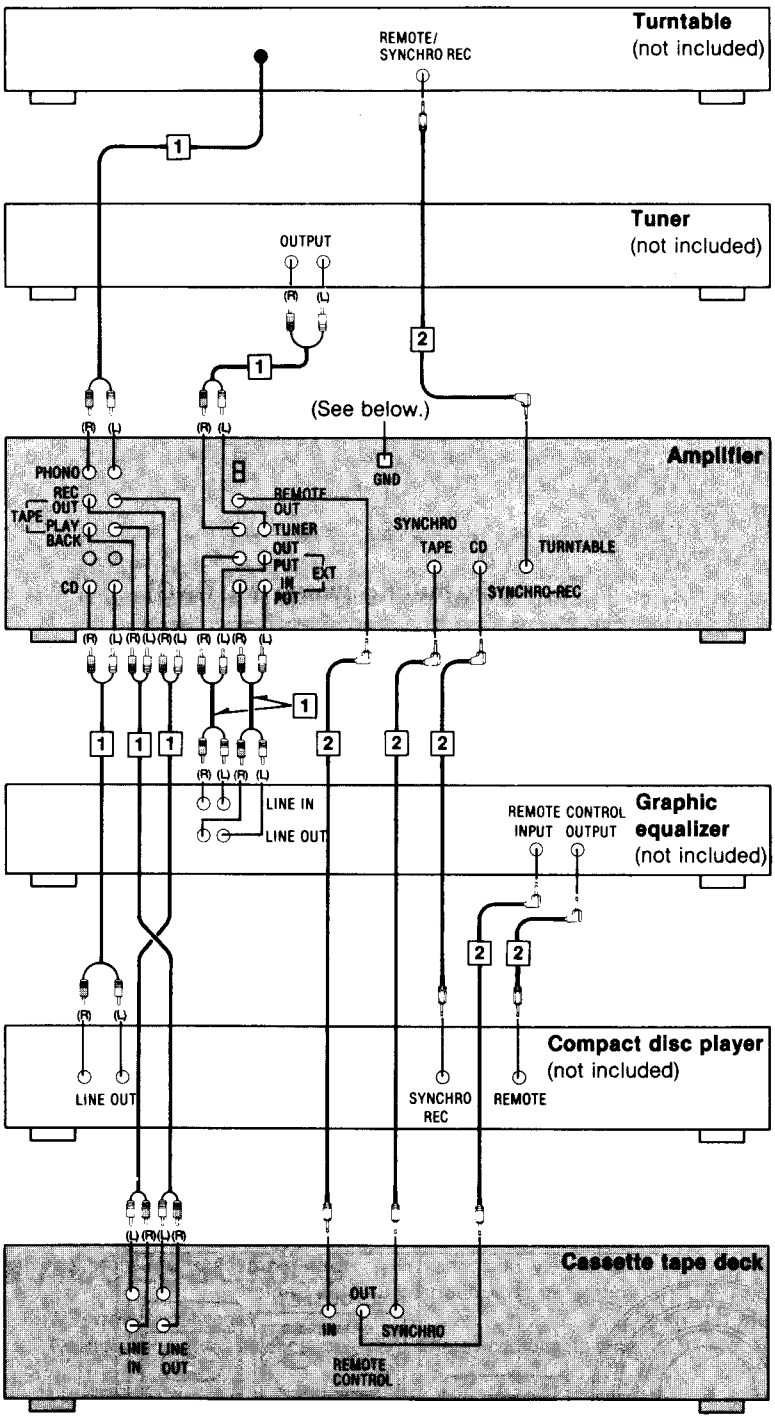
12 **Headphones jack (PHONES)**

•Rear panel



***Phono input capacitance is about 270 pF for EG area (about 100 pF for other areas).**

■ CONNECTIONS



Connection diagrams shown are for connections to a Technics hi-fi component system.
Make connections in the numbered sequential order.

1 Connect the stereo connection cables

(included with the turntable, tuner, graphic equalizer, compact disc player and cassette tape deck).

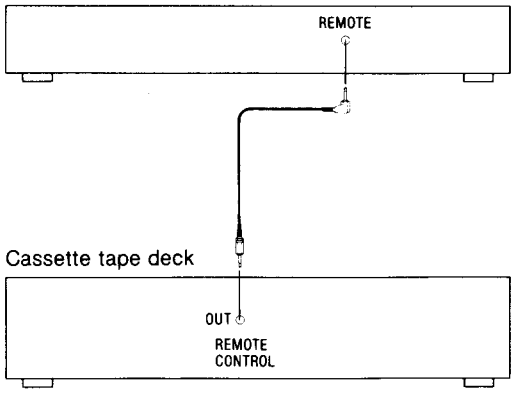
2 Connect the L-type cables

(included with the turntable, compact disc player, graphic equalizer and cassette tape deck).

Note:
Connect the L-type cables included with a compact disc player as illustrated below in either case:

- When a graphic equalizer does not have the remote control terminals.
- When a graphic equalizer is not used in combination with these components.

Compact disc player

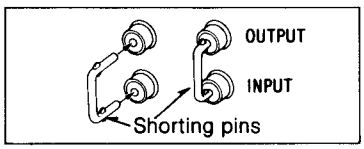


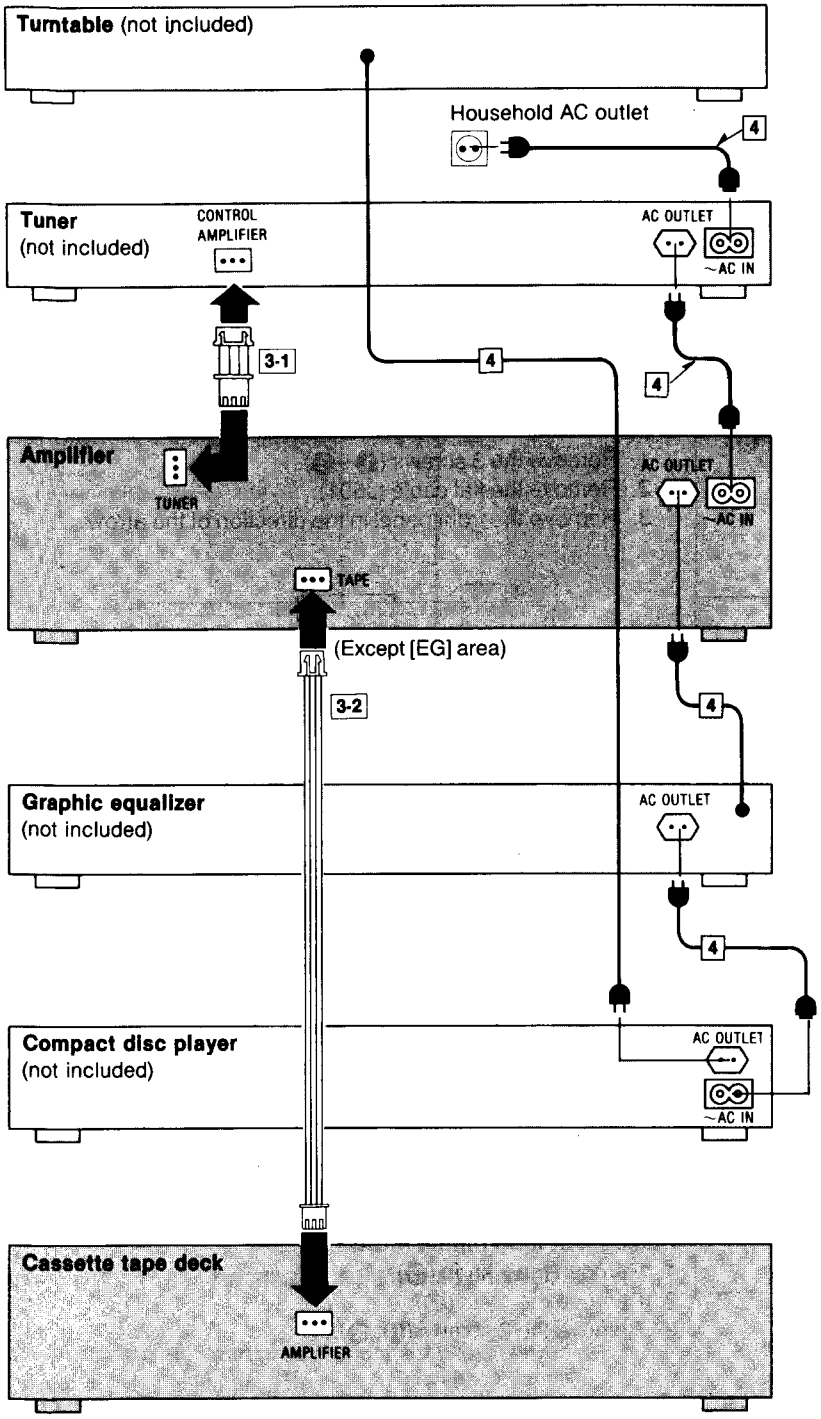
■ "GND" terminal of the amplifier

This terminal is for use with a turntable which has a ground wire.

■ "EXT" terminals of the amplifier

When these terminals are not in use, be sure to insert the shorting pins (included).





3 Connect the flat cables.

3-1 Connect the 3-core flat cable
(included with the tuner).

3-2 Connect the 3-core flat cable
(included with the cassette tape deck).

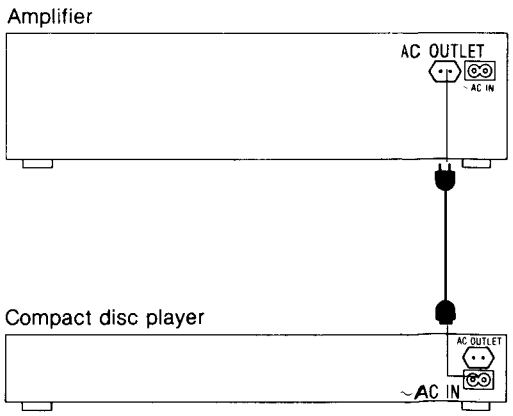
4 Connect the AC power supply cords.

Connect this cord only after all other cables and cords have been connected.

Notes:

1. The configuration of the AC outlet and AC power supply cord differs according to area.
2. Connect the AC power supply cord included with a compact disc player to the AC outlet of the amplifier as illustrated below in either case:

- When a graphic equalizer does not have the AC outlet.
- When a graphic equalizer is not used in combination with these components.



■ About the AC outlets of the each components

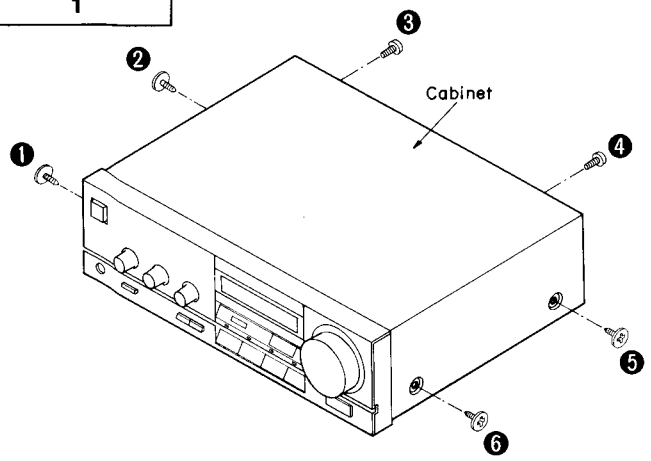
Do not connect video-related equipment (such as a TV, etc.) to the AC outlets of these components. (These outlets are especially for audio equipment.) Also do not exceed the indicated power ratings when connecting to these outlets.

- **"SWITCHED" outlet** (For tuner)
  Power is controlled by the power switch.
- **"UNSWITCHED" outlets** (For amplifier, compact disc player, graphic equalizer)
  Power is always available, regardless of power switch setting.

■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1	Removal of the Cabinet

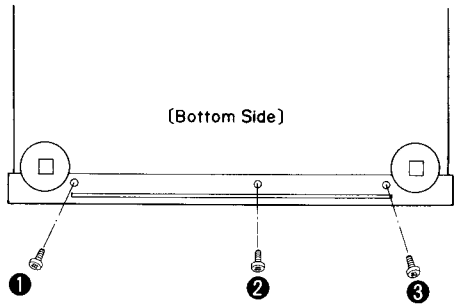
Procedure 1



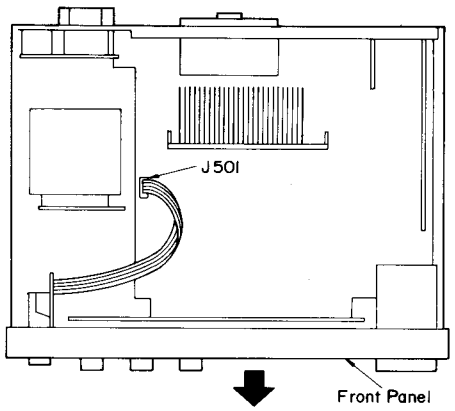
●Remove the 6 screws (❶~❻).

Ref. No. 2	Removal of the Front Panel

Procedure 1→2

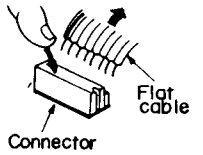


1. Remove the 3 screws (❶~❸).
2. Remove the flat cable (J501).
3. Remove the front panel in the direction of the arrow.



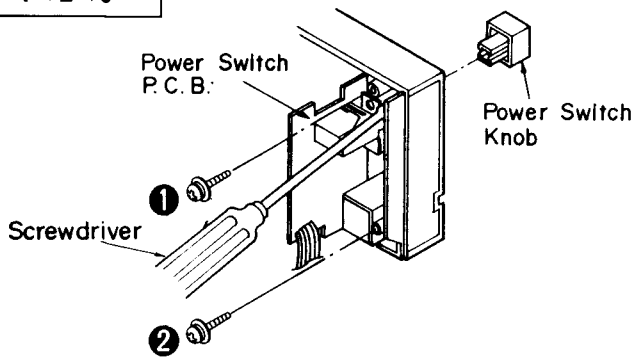
How to remove the flat cable

Pull out the flat cable while pressing the connector.



Ref. No. 3	Removal of the Power Switch P.C.B.

Procedure 1→2→3



1. Remove the power switch knob by pushing it from behind the front panel.
2. Remove the 2 screws (❶, ❷).

Ref. No. 4	Removal of the FL Drive/Tone Amp P.C.B. and Volume P.C.B.

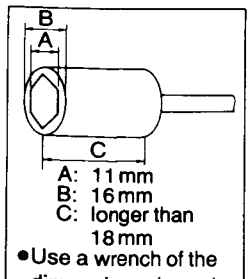
Procedure 1→2→4

Removal of the FL P.C.B.

1. Remove the 3 knobs (❶~❸).
2. Remove the 3 nuts (❹~❻).
3. Remove the 5 screws (❼~⓫).

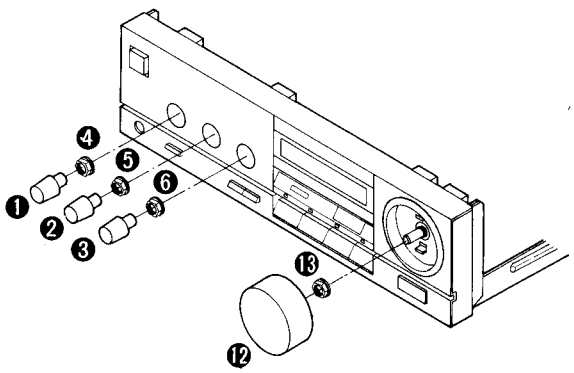
Removal of the Volume P.C.B.

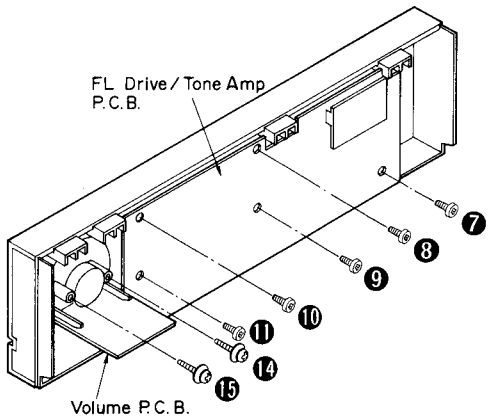
1. Remove the 1 knob (⓬).
2. Remove the 1 nut (⓭).
3. Remove the 2 screws (⓮, ⓯).



A: 11 mm
B: 16 mm
C: longer than 18 mm

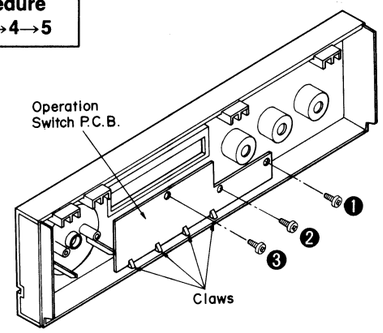
●Use a wrench of the dimensions shown in the illustration above to remove nuts.





Ref. No. 5 — Removal of the Operation Switch P.C.B.

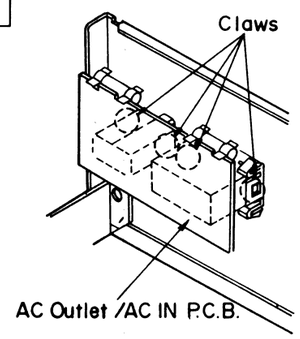
Procedure 1→2→4→5



1. Remove the 3 screws (❶~❸).
2. Release the 4 claws.

Ref. No. 6 — Removal of the AC Outlet/AC IN P.C.B.

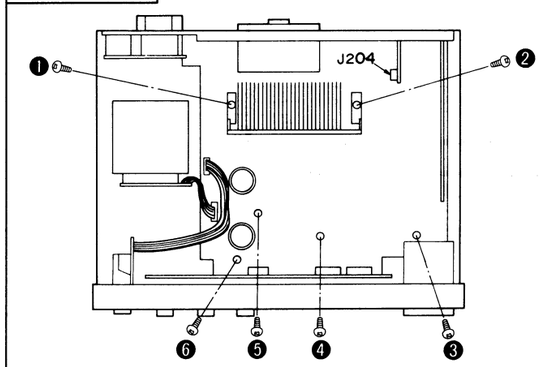
Procedure 1→6



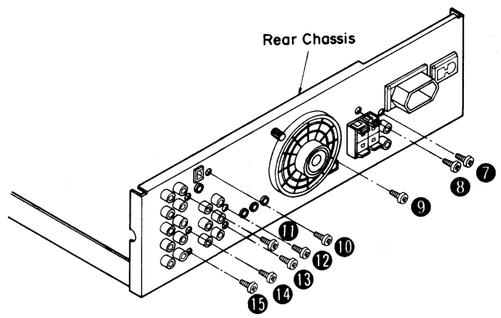
●Release the 4 claws.

Ref. No. 7 — Removal of the Main P.C.B.

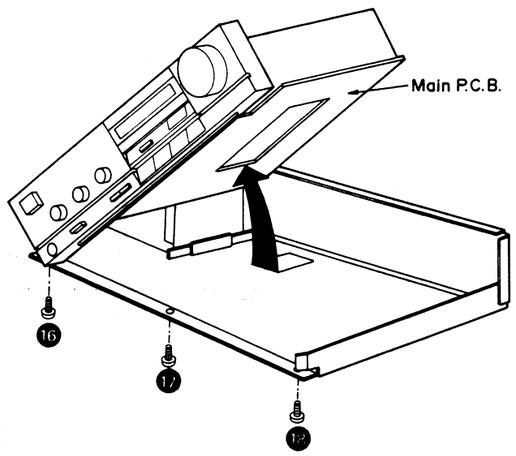
Procedure 1→7



1. Remove the 6 screws (❶~❻).
2. Remove the 1 connector (J204).



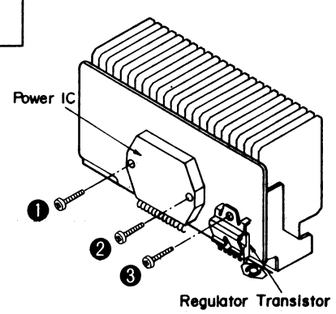
3. Remove the 9 screws (❼~⓯).



4. Remove the 3 screws (⓰~⓲).
5. Remove the main P.C.B. in the direction of the arrow.

Ref. No. 8 — Remove of the Power IC and Regulator Transistor

Procedure 1→7→8

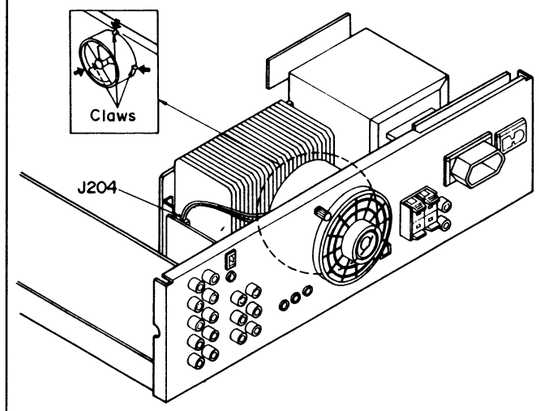


1. Unsolder the power IC or regulator transistor.
2. Remove the 3 screws (❶~❸).

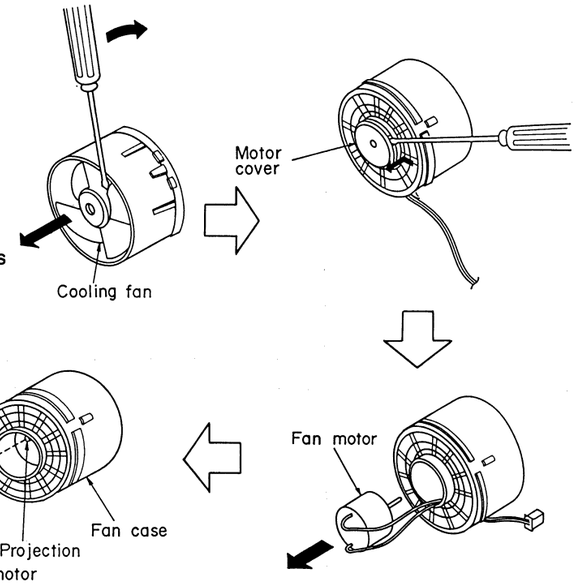
●**When mounting the power IC or regulator transistor.**
Apply silicone compond (SZZOL15) to the rear side of power IC or regulator transistor.

Ref. No. 9 — Removal of the Fan Motor

Procedure 1→9

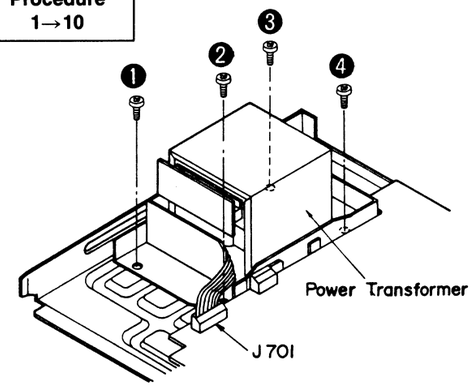


1. Pull out the 1 connector (J207).
2. Release the 3 claws.
3. Insert a screwdriver at the root of the cooling fan. Force it out of the motor shaft.
4. Remove the motor cover by used ⊖ screwdriver.
5. Remove the motor from the fan casing.
6. When mounting the motor fan, align the fan casing's projection with the hole of the fan motor.



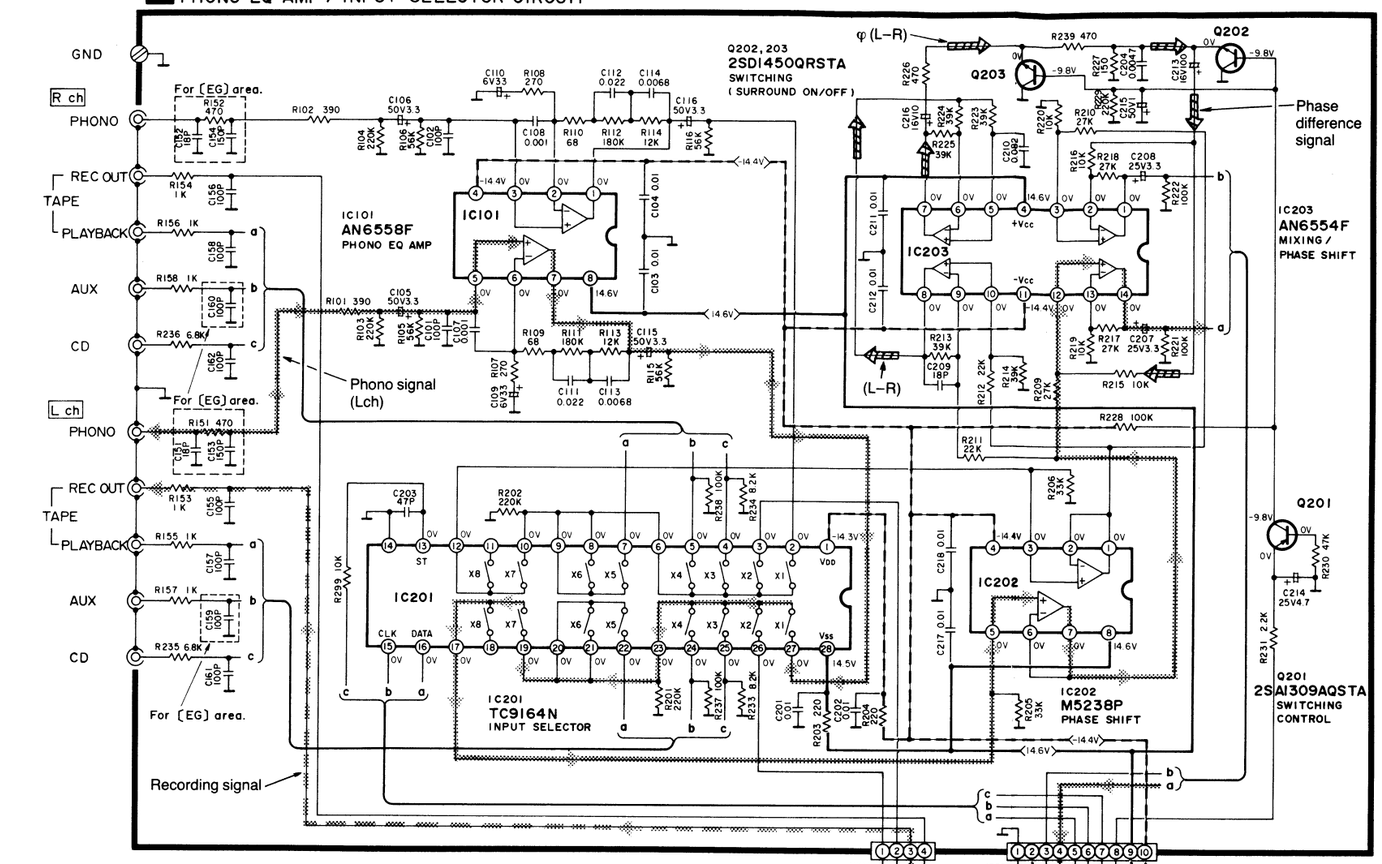
Ref. No. 10 — Removal of the Power Transformar

Procedure 1→10

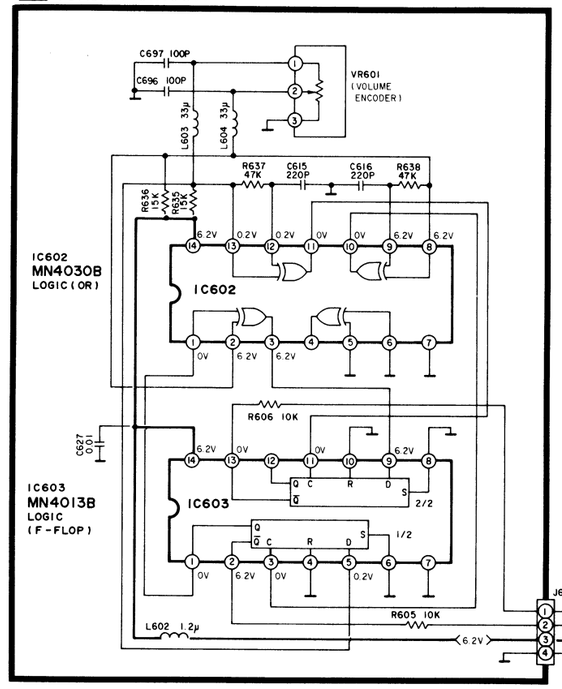


1. Remove the 1 flat cable (J701).
2. Remove the 4 screws (❶~❹).

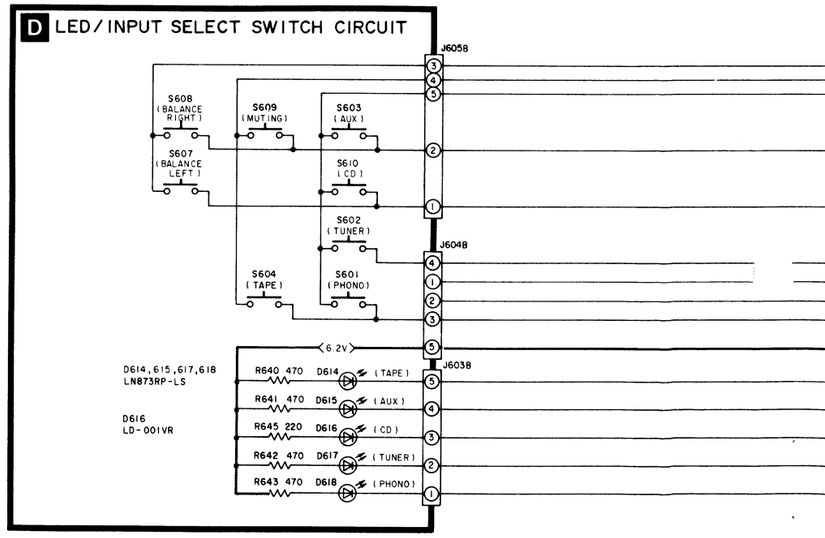
A PHONO EQ AMP / INPUT SELECTOR CIRCUIT



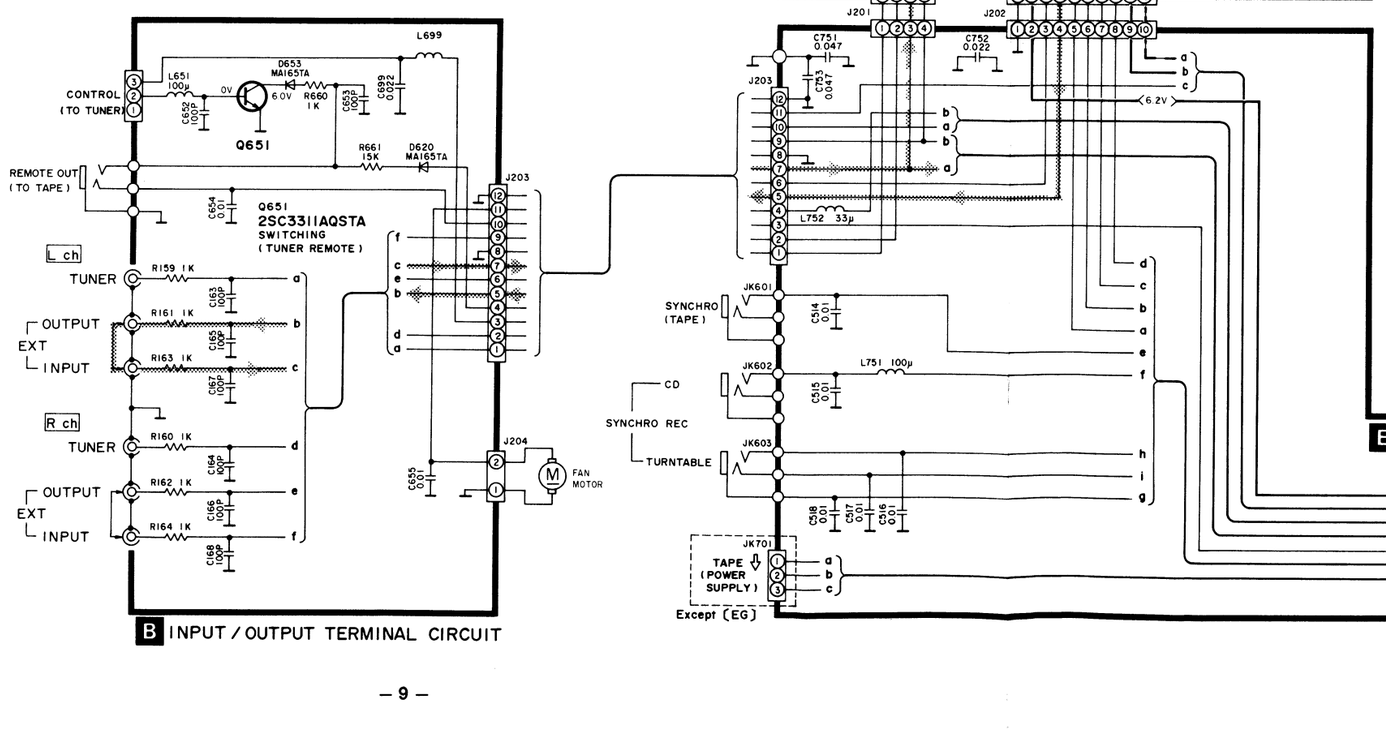
C VOLUME CIRCUIT



D LED / INPUT SELECT SWITCH CIRCUIT



E MAIN CIRCUIT



B INPUT / OUTPUT TERMINAL CIRCUIT

F FL DRIVE / TONE AMP CIRCUIT

FL601 (RSL0013 - F)

FL DISPLAY

Q607
2SC3311AQSTA
FL DRIVE

Q611
UN4111TA
SWITCHING
CONTROL

Q604
2SC3311AQSTA
SWITCHING
(TURNTABLE
STOP)

Q605,609
UN4211TA
SWITCHING
(REC/REMOTE)

Q601
2SA1309AQSTA
SWITCHING(REMOTE)

Q602,603,610
UN4211TA
SWITCHING

IC601
LC6554D-3230
MICRO COMPUTER

Q612~614
UN4211TA
SWITCHING

IC301
TC9177P
ATTENUATOR

Q501,502
2SC3114STU
MUTING

Q503
2SA1309AQSTA
MUTING CONT.

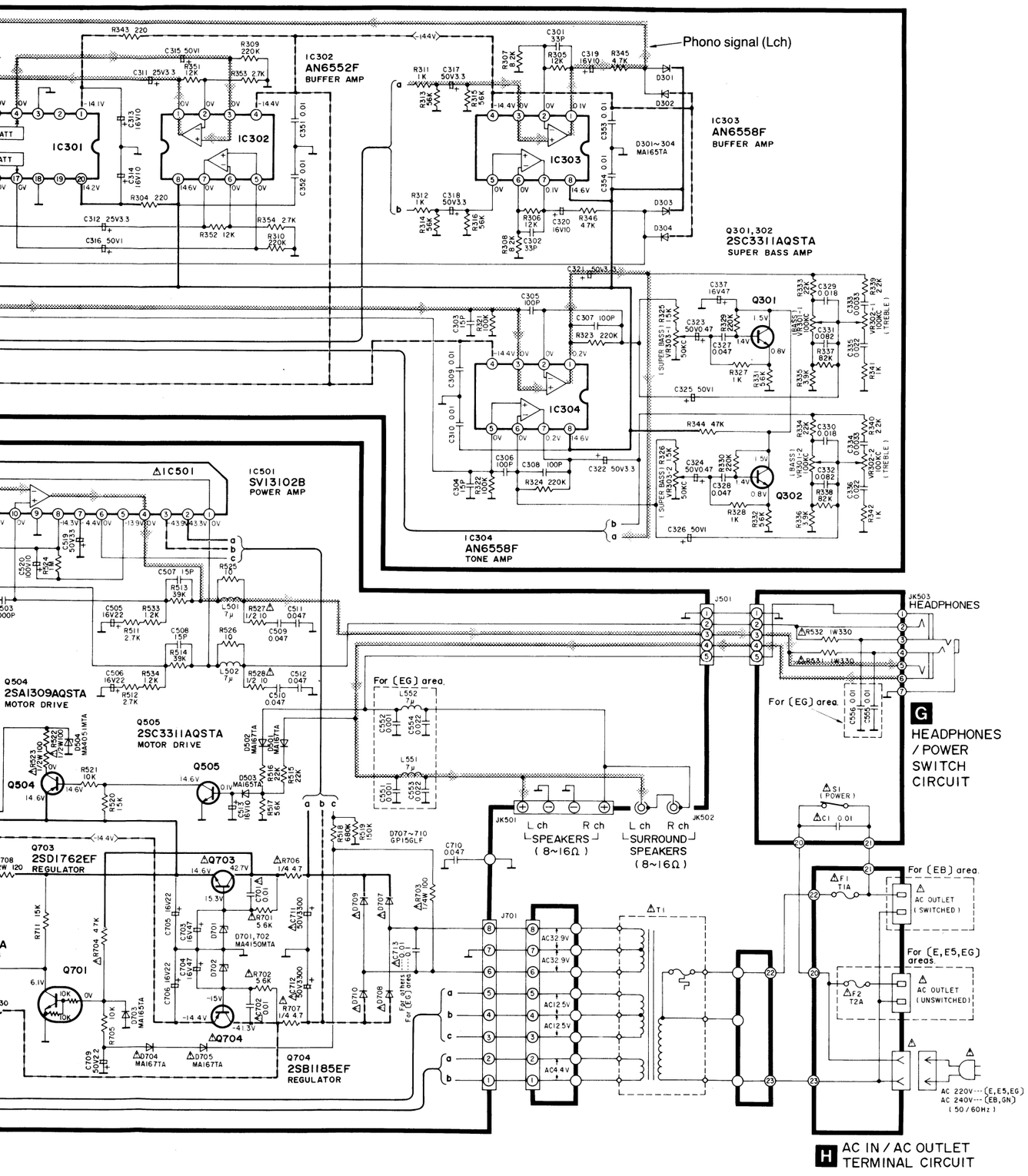
Q504
2SA1309AQSTA
MOTOR DRIVE

IC701
AN78L06
REGULATOR

Q703
2SD1762EF
REGULATOR

Q701
UN4211TA
SWITCHING

Q702
2SA684QRS
REGULATOR



■ SCHEMATIC DIAGRAM

(Parts list on pages 25~30)

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- **S1:** Power switch.
- **S2:** Voltage selector switch in **"220 V"** position. **(110 V/127 V/220 V/240 V)** For (GC) area only.
- **S601A:** Surround-sound switch.
- **S601~604:**
  S610: Input selector switches. **S601: PHONO, S602: TUNER, S603: AUX S604: TAPE, S610: CD**
- **S607, 608:** Balance control switches. **(S607: Lch, S608: Rch)**
- **S609:** Audio muting switch.

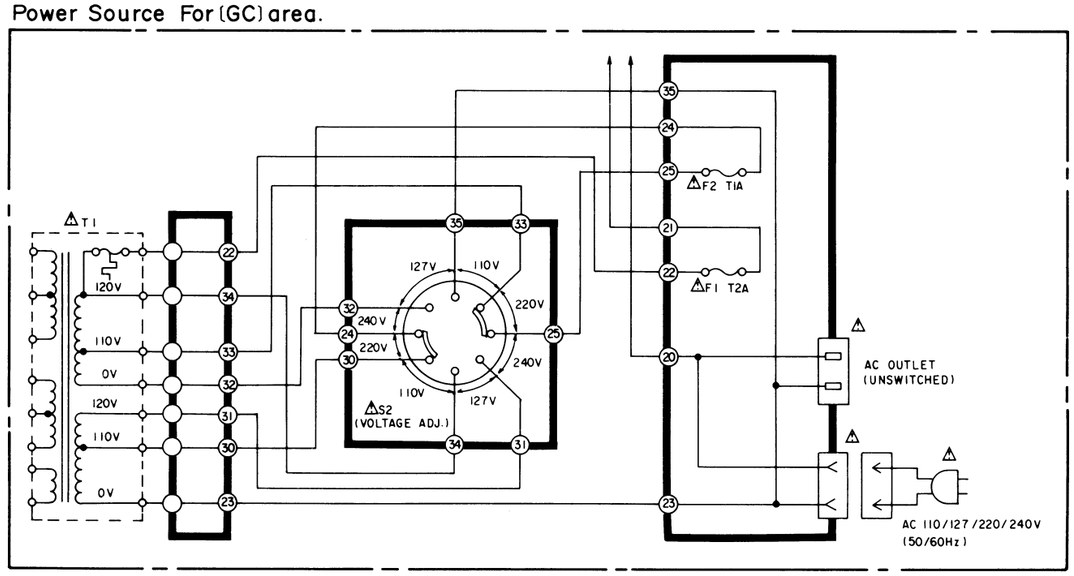
CD • Phono signal line — Recording signal
Phase difference signal — Super bass signal
Positive voltage line — Negative voltage line

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

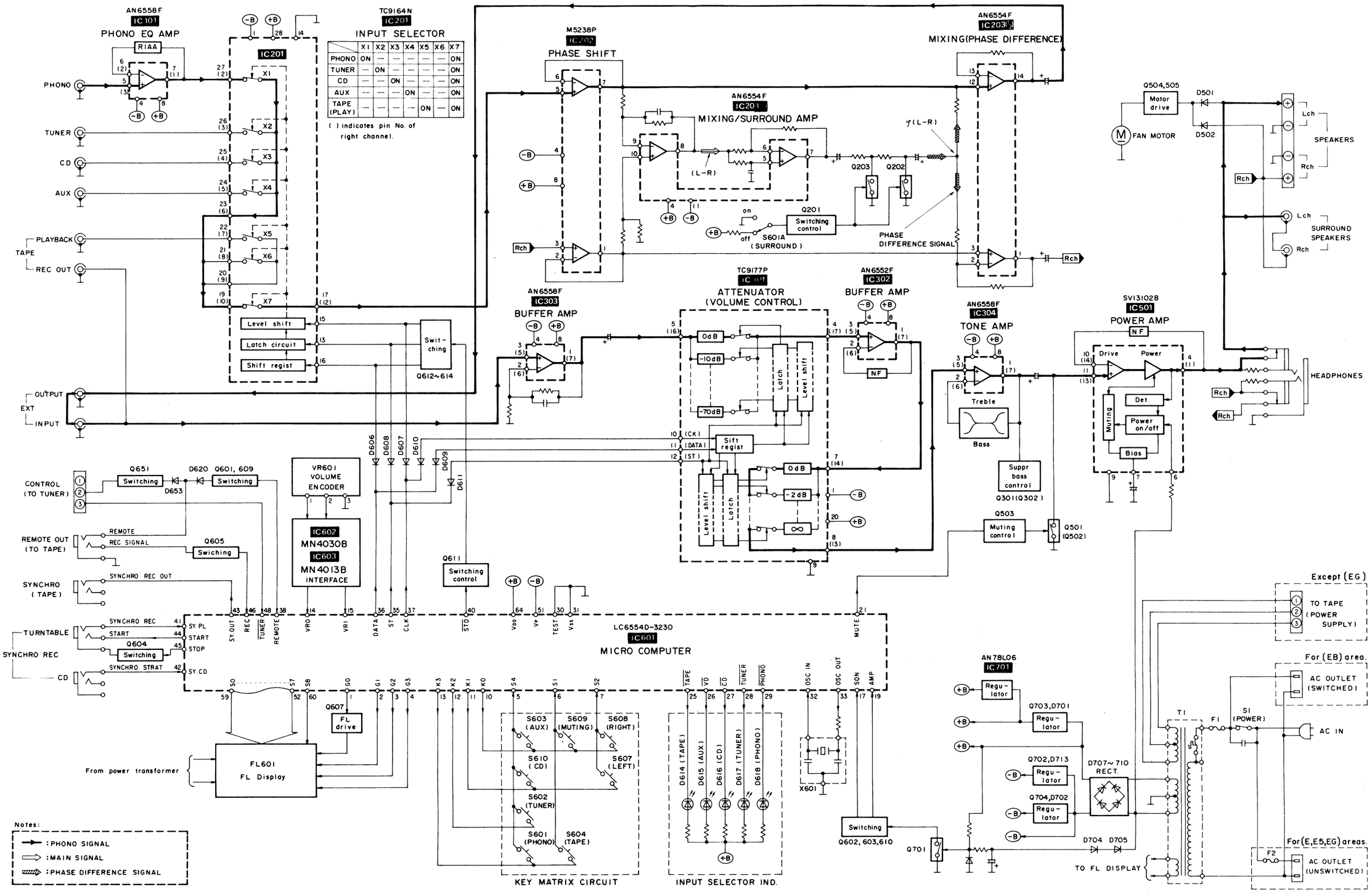
***Caution!**

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care furing repair.
*Cover the parts boxes made of plastics with aluminum foil.
*Ground the soldering iron.
*Put a conductive mat on the work table.
*Do not touch the legs of IC or LSI with the fingers directly.

Power Source For (GC) area.

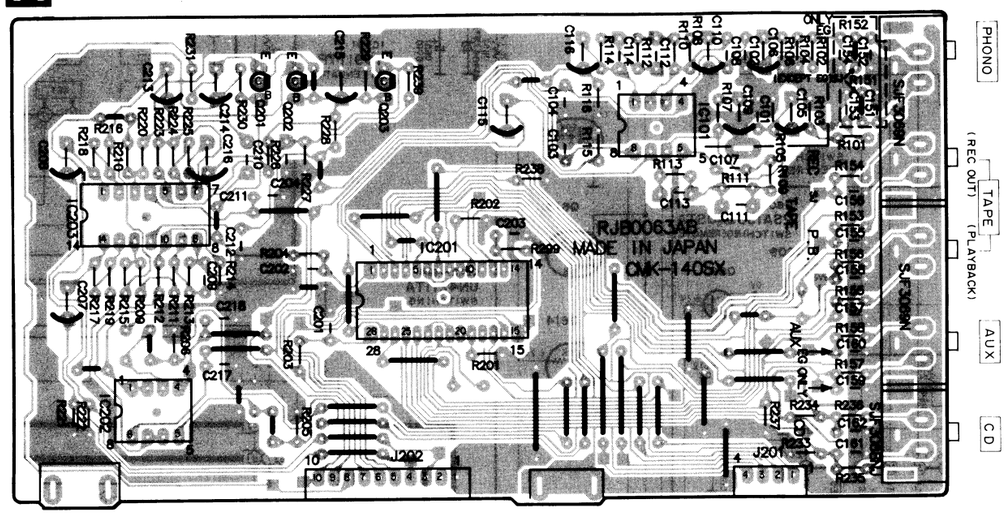


■ BLOCK DIAGRAM

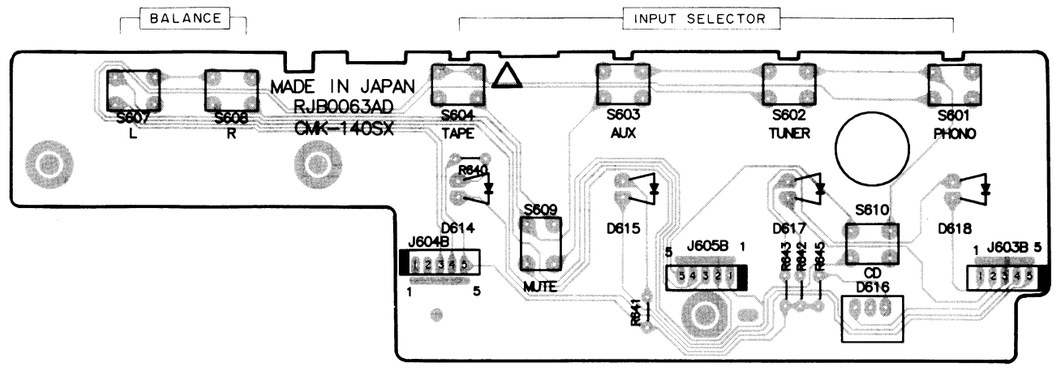


■ PRINTED CIRCUIT BOARDS (parts list on pages 25~30)

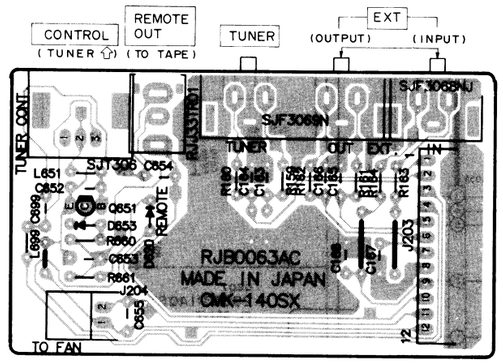
A PHONO EQ AMP/INPUT SELECTOR P.C.B.



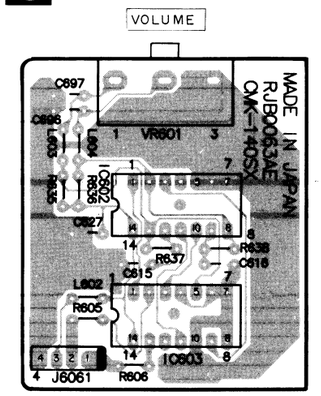
D LED/INPUT SELECT SWITCH P.C.B.



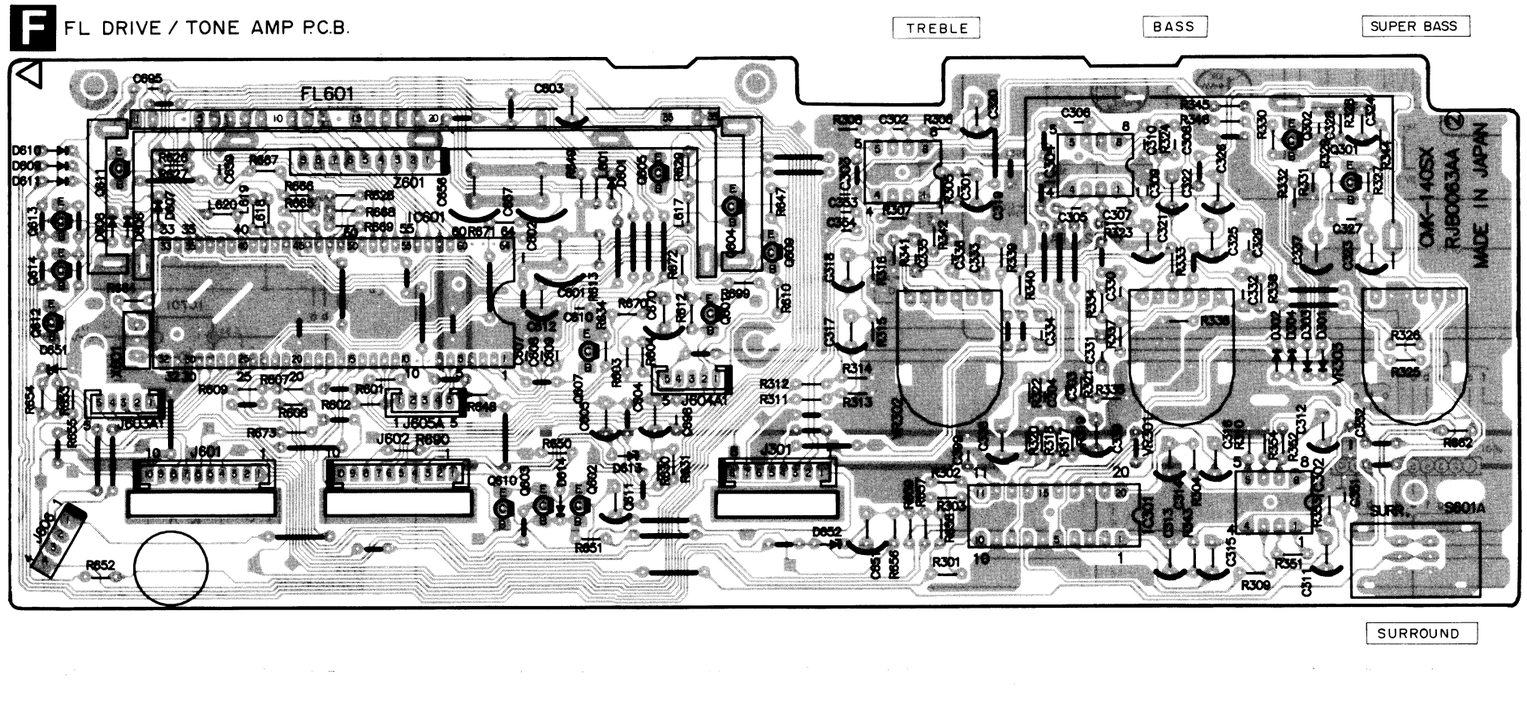
B INPUT/OUTPUT TERMINAL P.C.B.



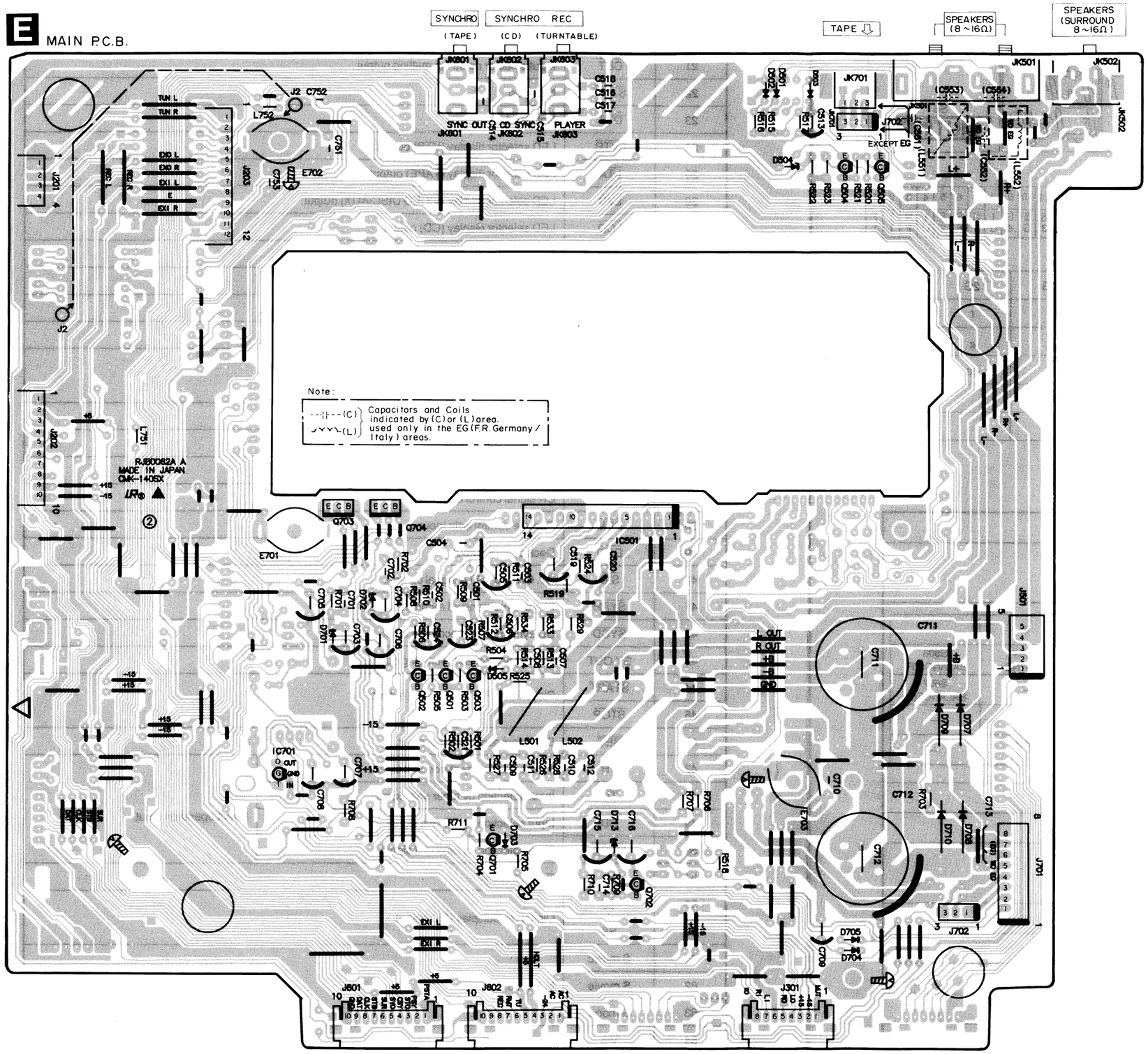
C VOLUME P.C.B.



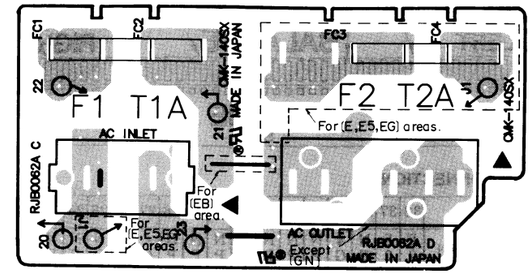
F FL DRIVE / TONE AMP P.C.B.



E MAIN P.C.B.



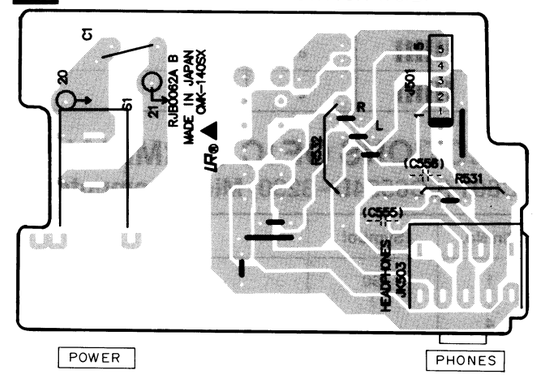
H AC IN / AC OUTLET TERMINAL P.C.B.

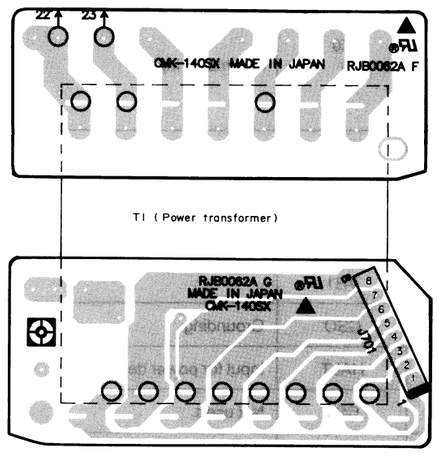


(220V 50/60Hz ··· (E,E5,EG)
(240V 50/60Hz ··· (EB,GN)
AC IN

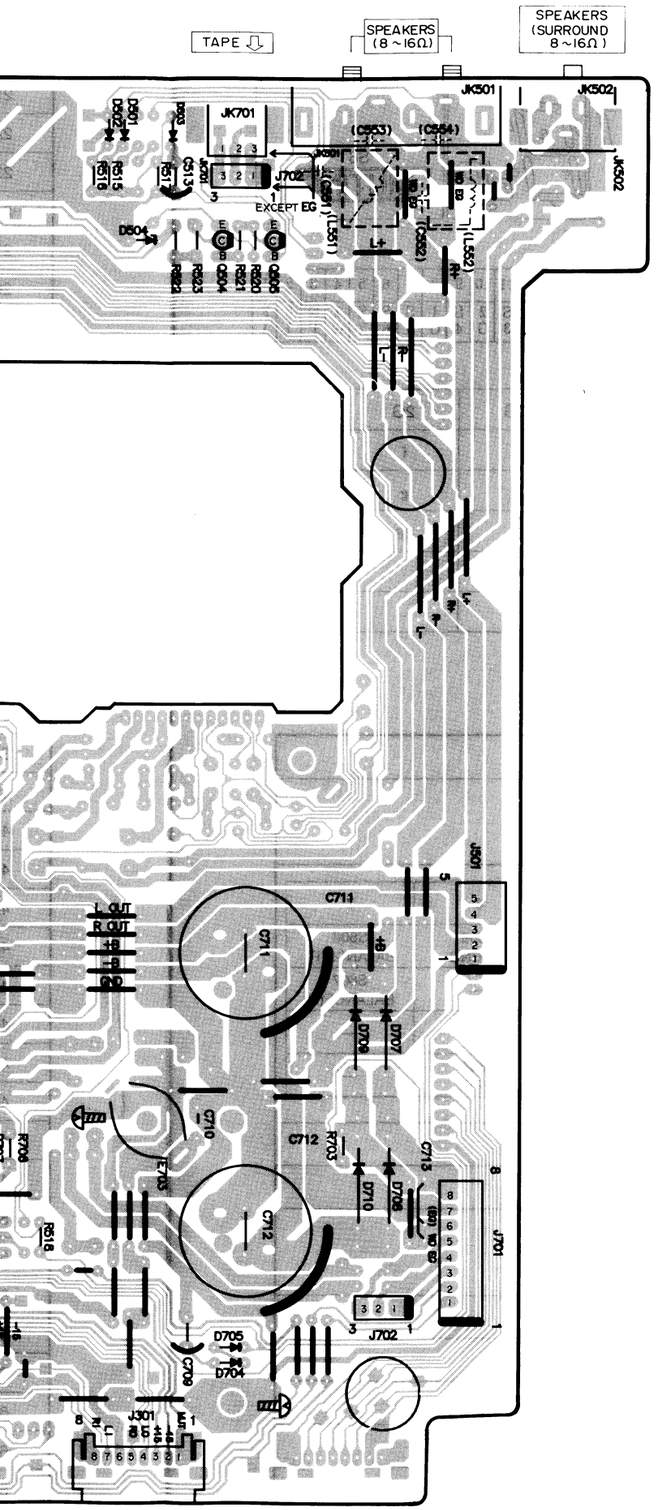
(UNSWITCHED ··· (E,E5,EG)
(SWITCHED ··· (EB)
AC OUTLET

G HEADPHONES / POWER SWITCH P.C.B.

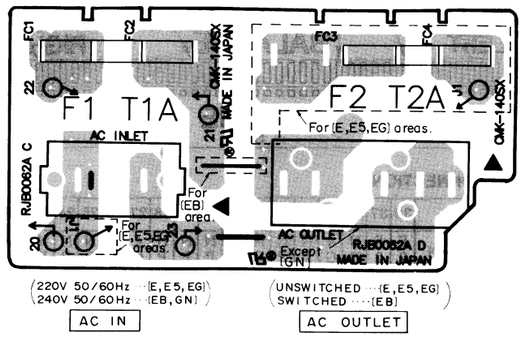




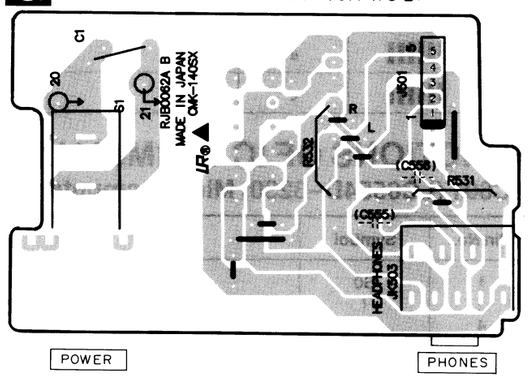
16 17 18 19 20 21 22 23 24 25

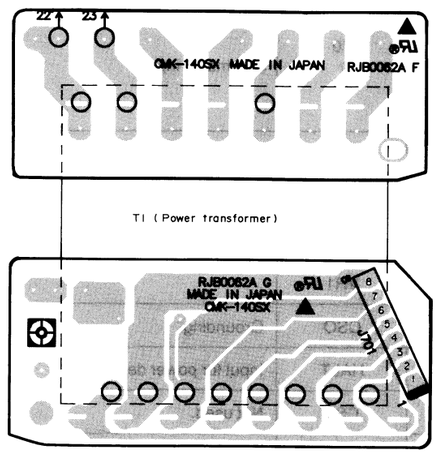


H AC IN / AC OUTLET TERMINAL P.C.B.

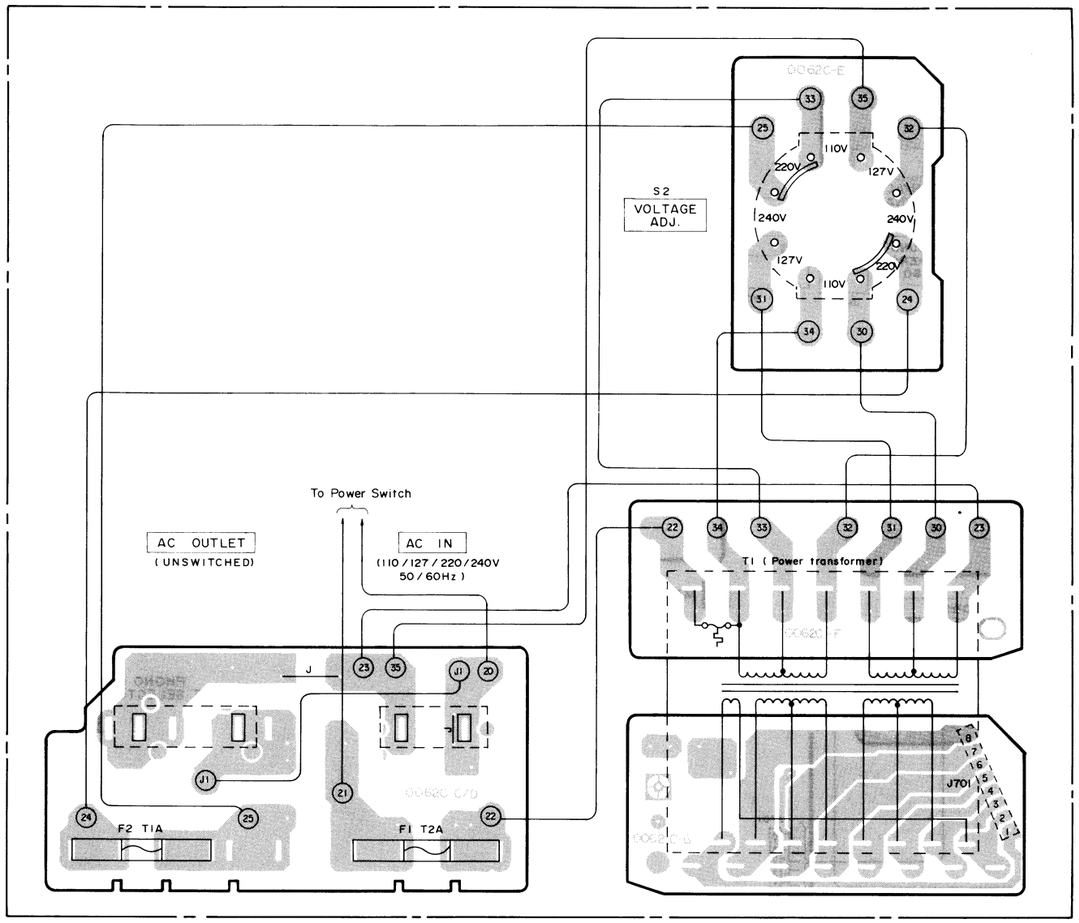


G HEADPHONES / POWER SWITCH P.C.B.



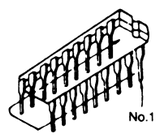


Power Source For (GC) area.

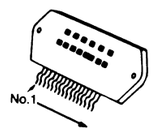


■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

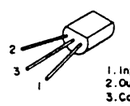
AN6552F AN6558F M5238P	8 pin	TC9177P	20 pin
		TC9164N	28 pin
		LC6554D-3230	64 pin
AN6554F MN4030B MN4013B	14 pin		



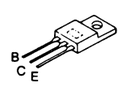
SVI3102B 14 pin



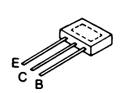
AN78L06



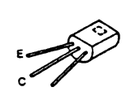
2SD1762EF
2SB1185EF



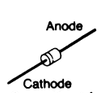
2SC3311A-Q, UN4111
2SA1309AQS, UN4211
2SD1450R



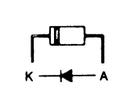
2SC3114STU
2SA684QRS



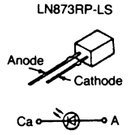
MA167
MA165



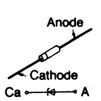
GP15GLF



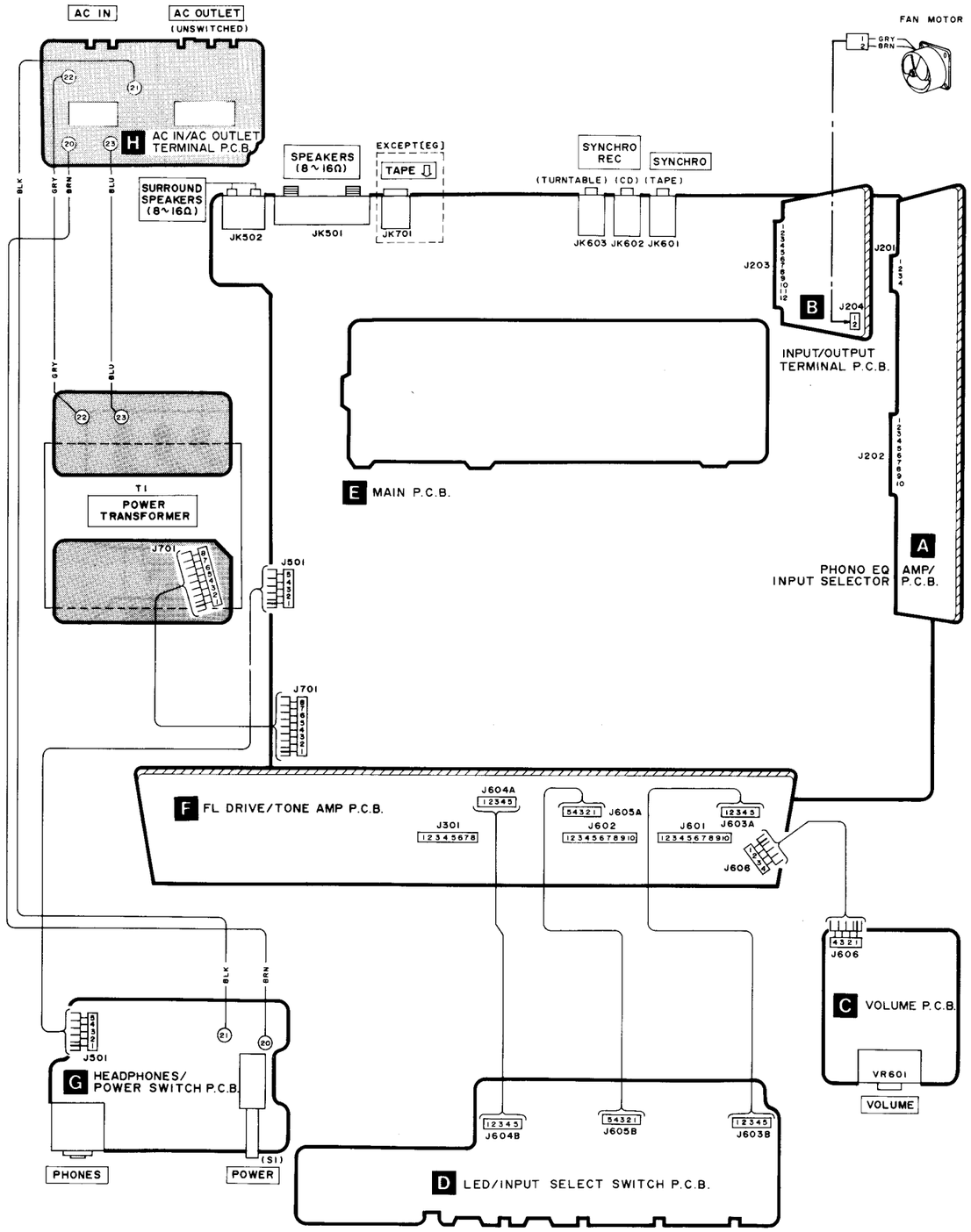
LN873RP-LS



MA4051, MA4056M,
MA4047M, MA4180M
MA4150M

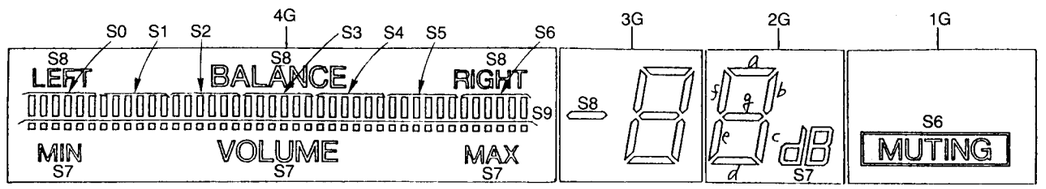


■ WIRING CONNECTION DIAGRAM



■ DESCRIPTION OF FL PANEL

•GRID ASSIGNMENT



•PIN CONNECTION

PIN NO.	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F2	NP	4G	NP	NP	NP	NP	NP	NP	NP	4G	NP	NP	NP	NP	NP	NP	NP	4G	S9	3G	S8	S0	S1	3G	S2	2G	S3	2G	S4	1G	S5	S6	S7	1G	NP	F1	F1

•ANODE CONNECTION

	4G	3G	2G	1G
S0	▮▮▮▮▮▮	a	a	-
S1	▮▮▮▮▮▮	b	b	-
S2	▮▮▮▮▮▮	c	c	-
S3	▮▮▮▮▮▮	d	d	-
S4	▮▮▮▮▮▮	e	e	-

	4G	3G	2G	1G
S5	▮▮▮▮▮▮	f	f	-
S6	▮▮▮▮▮▮	g	g	MUTING
S7	MIN VOLUME MAX	-	dB	-
S8	LEFT BALANCE RIGHT	▬	-	-
S9	▪▪▪▪▪▪▪ (×7)	-	-	-

■ FUNCTIONS OF IC TERMINALS

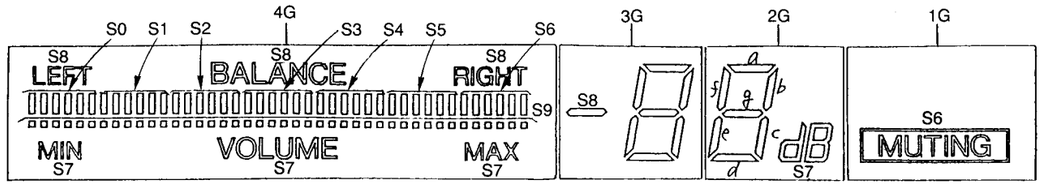
•IC601 (LC6554D–3230) Micro Computer

Pin No.	Symbol	Function Description
1 ~ 4	G0 ~ G3	Grid drive output for digital multidisplay (FL).
5 ~ 7	S0 ~ S2	Key matrix output.
10 ~ 13	K0 ~ K3	Key matrix input.
8	S3	Not used.
9	POWER ON	Not used.
14	VR0	Rotary encoder input of volume control (VR601).
15	VR1	
16	CSO	Grounding.
17	HALT	Input for power detection.
18	CS1	Not used.
19	AMP	Input for power detection.
20	AMP POWER	Grounding.

Input \ Output	5	6	7
10	S603 AUX	S609 MUTING	S608 BALANCE(R)
11	S610 CD	—	S607 BALANCE(L)
12	S602 TUNER	—	—
13	S601 PHONO	S604 TAPE1	—

■ DESCRIPTION OF FL PANEL

•GRID ASSIGNMENT



•PIN CONNECTION

PIN NO.	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F2	NP	4G	NP	NP	NP	NP	NP	NP	NP	4G	NP	NP	NP	NP	NP	NP	4G	S9	3G	S8	S0	S1	3G	S2	2G	S3	2G	S4	1G	S5	S6	S7	1G	NP	F1	F1

•ANODE CONNECTION

	4G	3G	2G	1G
S0	▮▮▮▮▮▮	a	a	-
S1	▮▮▮▮▮▮	b	b	-
S2	▮▮▮▮▮▮	c	c	-
S3	▮▮▮▮▮▮	d	d	-
S4	▮▮▮▮▮▮	e	e	-

	4G	3G	2G	1G
S5	▮▮▮▮▮▮	f	f	-
S6	▮▮▮▮▮▮	g	g	MUTING
S7	MIN VOLUME MAX	-	dB	-
S8	LEFT BALANCE RIGHT	▬	-	-
S9	▪▪▪▪▪▪▪ (×7)	-	-	-

■ FUNCTIONS OF IC TERMINALS

•IC601 (LC6554D–3230) Micro Computer

Pin No.	Symbol	Function Description
1 ~ 4	G0 ~ G3	Grid drive output for digital multidisplay (FL).
5 ~ 7	S0 ~ S2	Key matrix output.
10 ~ 13	K0 ~ K3	Key matrix input.
8	S3	Not used.
9	POWER ON	Not used.
14	VR0	Rotary encoder input of volume control (VR601).
15	VR1	
16	CSO	Grounding.
17	HALT	Input for power detection.
18	CS1	Not used.
19	AMP	Input for power detection.
20	AMP POWER	Grounding.

Input \ Output	5	6	7
10	S603 AUX	S609 MUTING	S608 BALANCE(R)
11	S610 CD	—	S607 BALANCE(L)
12	S602 TUNER	—	—
13	S601 PHONO	S604 TAPE1	—

Pin. No.	Symbol	Function Description
21	$\overline{CUT}$	Input selector noise cut multing output.
22	$\overline{S.ON}$	Not used.
23	$\overline{DTS}$	Not Used.
24	$\overline{LVTR}$	LED selector display (VTR) output.
25	$\overline{LTA}$	LED selector display (TAPE) output.
26	$\overline{LVD}$	LED selector display (VIDEO DISC/AUX) output.
27	$\overline{LCD}$	LED selector display (CD) output.
28	$\overline{LTU}$	LED selector display (TUNER) output.
29	$\overline{LPH}$	LED selector display (PHONO) output.
30	TEST	Grounding.
31	V_{SS}	Grounding.
32	OSC1	Clock oscillation input/output.
33	OSC2	
34	$\overline{RES}$	Reset signal input.
35	ST	ST signal control output.
36	DATA	DATA signal control output.
37	CK	CK signal control output.
38	$\overline{REM}$	Remote control data input.
39	$\overline{DCD}$	Deck control output.
40	$\overline{SID}$	ST, CK and DATA signal control.
41	$\overline{SYPH}$	Player synchronized recording input.
42	$\overline{SYCD}$	CD synchronized recording input.
43	SY OUT	Deck synchronized recording output.
44	$\overline{START}$	Player STOP/START signal output.
45	$\overline{STOP}$	
46	$\overline{REC}$	Deck onrecording signal input.
47	$\overline{PH}$	Input selection by phono unit signal. (Direct operation input.)
48	$\overline{TU}$	Input selection by tuner unit signal.
49	$\overline{CD}$	Input selection by CD unit signal.
50	$\overline{DECK}$	Input selection by tape unit signal.
51	V_P	Power supply.
52 ~ 60	S0 ~ S8	Digital multidisplay (FL) output.
61	S music	Not used.
62	S movie	
63	S mono	
64	V_{DD}	Power supply.

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Remarks columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique
ECEA	50	M	330	
Type	Voltage (50V)	Characteristics	Value (33μF)	

- Capacity values are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).
- Resistance values are in ohms (Ω), unless specified otherwise, 1K = 1,000Ω, 1M = 1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 % −20
ECQM	: Polyester	50 : 50V	05 : 50V	J : ±5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS	
R101, 102	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R103, 104	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R105, 106	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R107, 108	ERDS2TJ271T	C. RESISTOR 1/4W 270	
R109, 110	ERDS2TJ680T	C. RESISTOR 1/4W 68	
R111, 112	ERDS2TJ184T	C. RESISTOR 1/4W 180K	
R113, 114	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R115, 116	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R151, 152	ERDS2TJ471T	C. RESISTOR 1/4W 470	(EG)
R153 164	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R201, 202	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R203, 204	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R205, 206	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R209, 210	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R211, 212	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R213, 214	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R215, 216	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R217, 218	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R219, 220	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R221, 222	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R223 225	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R226	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R227	ERDS2TJ151T	C. RESISTOR 1/4W 150	
R228	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R229	ERDS2TJ224T	C. RESISTOR 1/4W 220K	

Ref. No.	Part No.	Part Name & Description	Remarks
R230	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R231	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R233	ERDS2TJ822T	C. RESISTOR 1/4W 8.2K	
R234	ERDS2TJ822T	C. RESISTOR 1/4W 8.2K	
R235	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R236	ERDS2TJ682T	C. RESISTOR 1/4W 6.8K	
R237	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R238	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R239	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R299	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R301	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R302	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R303	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R304	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R305	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R306	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R307	ERDS2TJ822T	C. RESISTOR 1/4W 8.2K	
R308	ERDS2TJ822T	C. RESISTOR 1/4W 8.2K	
R309	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R310	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R311	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R312	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R313	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R314	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R315	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R316	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R317	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R318	ERDS2TJ223T	C. RESISTOR 1/4W 22K	

Ref. No.	Part No.	Part Name & Description	Remarks
R319	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R320	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R321	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R322	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R323	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R324	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R325	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R326	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R327	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R328	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R329	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R330	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R331	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R332	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R333	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R334	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R335	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R336	ERDS2TJ392T	C. RESISTOR 1/4W 3.9K	
R337	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R338	ERDS2TJ823T	C. RESISTOR 1/4W 82K	
R339	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R340	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R341	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R342	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R343	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R344	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R345	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R346	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R351	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R352	ERDS2TJ123T	C. RESISTOR 1/4W 12K	
R353	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R354	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R501	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R502	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R503	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R504	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R505	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R506	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R507	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R508	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R509	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R510	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R511	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R512	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R513	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R514	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R515	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R516	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R517	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R518	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R519	ERDS2TJ154T	C. RESISTOR 1/4W 150K	
R520	ERDS2TJ153T	C. RESISTOR 1/4W 15K	

Ref. No.	Part No.	Part Name & Description	Remarks
R521	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R522	ERDS1FVJ101T	C. RESISTOR 1/2W 100	⚠
R523	ERDS1FVJ101T	C. RESISTOR 1/2W 100	⚠
R524	ERDS2TJ105T	C. RESISTOR 1/4W 1M	
R525	ERDS2TJ100T	C. RESISTOR 1/4W 10	
R526	ERDS2TJ100T	C. RESISTOR 1/4W 10	
R527	ERDS1FVJ100T	C. RESISTOR 1/2W 10	⚠
R528	ERDS1FVJ100T	C. RESISTOR 1/2W 10	⚠
R529	ERD25FVJ470T	C. RESISTOR 1/4W 47	⚠
R531	ERG1ANJP331S	M. RESISTOR 1W 330	⚠
R532	ERG1ANJP331S	M. RESISTOR 1W 330	⚠
R533	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R534	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R601	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R602	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R603	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R604	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R605	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R606	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R607	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R608	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R609	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R610	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R612	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R613	ERDS2TJ224T	C. RESISTOR 1/4W 220K	
R626	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R627	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R628	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R629	ERDS2TJ822T	C. RESISTOR 1/4W 8.2K	
R630	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R631	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R634	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R635	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R636	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R637	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R638	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R640	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R641	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R642	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R643	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R645	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R647	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R648	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R649	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R650	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R651	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R652	ERDS2TJ182T	C. RESISTOR 1/4W 1.8K	
R653	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R654	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R655	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R656	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R657	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	

Ref. No.	Part No.	Part Name & Description	Remarks
R658	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R659	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R660	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R661	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R662	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R664	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R665	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R666	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R667	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R668	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R669	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R670	ERDS2TJ680T	C. RESISTOR 1/4W 68	
R671	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R672	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R673	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R690	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R699	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R701	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	⚠
R702	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	⚠
R703	ERD25FVJ101T	C. RESISTOR 1/4W 100	⚠
R704	ERDS2TJ473T	C. RESISTOR 1/4W 47K	⚠
R705	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R706	ERD25FVJ4R7T	C. RESISTOR 1/4W 4.7	⚠
R707	ERD25FVJ4R7T	C. RESISTOR 1/4W 4.7	⚠
R708	ERDS1FVJ121T	C. RESISTOR 1/2W 120	⚠
R709	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	⚠
R710	ERDS1FVJ331T	C. RESISTOR 1/2W 330	⚠
R711	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
		CAPACITORS	
C1	ECKWNS103ZVS	C. CAPACITOR 250V 0.01U	⚠
C101	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C102	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C103	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C104	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C105	ECEA1HPS3R3B	E. CAPACITOR 50V 3.3U	
C106	ECEA1HPS3R3B	E. CAPACITOR 50V 3.3U	
C107	ECBT1H102KB5	C. CAPACITOR 50V 0.001U	
C108	ECBT1H102KB5	C. CAPACITOR 50V 0.001U	
C109	ECEA0JK330B	E. CAPACITOR 6.3V 33U	
C110	ECEA0JK330B	E. CAPACITOR 6.3V 33U	
C111	ECFTD223KXL	S. CAPACITOR 25V 0.022U	
C112	ECFTD223KXL	S. CAPACITOR 25V 0.022U	
C113	ECFTD682KXL	S. CAPACITOR 25V 6800P	
C114	ECFTD682KXL	S. CAPACITOR 25V 6800P	
C115	ECEA1HPS3R3B	E. CAPACITOR 50V 3.3U	
C116	ECEA1HPS3R3B	E. CAPACITOR 50V 3.3U	
C151	RCBS1H180JLY	C. CAPACITOR 50V 18P	(EG)
C152	RCBS1H180JLY	C. CAPACITOR 50V 18P	(EG)
C153	RCBS1H151KBY	C. CAPACITOR 50V 150P	(EG)
C154	RCBS1H151KBY	C. CAPACITOR 50V 150P	(EG)

Ref. No.	Part No.	Part Name & Description	Remarks
C155	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C156	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C157	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C158	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C159	RCBS1H101KBY	C. CAPACITOR 50V 100P	(EG)
C160	RCBS1H101KBY	C. CAPACITOR 50V 100P	(EG)
C161	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C162	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C163	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C164	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C165	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C166	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C167	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C168	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C201	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C202	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C203	RCBS1H470JLY	C. CAPACITOR 50V 47P	
C204	ECFTD472KXL	C. CAPACITOR 25V 4700P	
C207	ECEA1EK3R3B	E. CAPACITOR 25V 3.3U	
C208	ECEA1EK3R3B	E. CAPACITOR 25V 3.3U	
C209	RCBS1H180JLY	C. CAPACITOR 50V 18P	
C210	ECFTD823KXL	S. CAPACITOR 25V 0.082U	
C211	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C212	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C213	ECEA1CU101B	E. CAPACITOR 16V 100U	
C214	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C215	ECEA1HK010B	E. CAPACITOR 50V 1U	
C216	ECEA1CK100B	E. CAPACITOR 16V 10U	
C217	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C218	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C301	RCBS1H330JLY	C. CAPACITOR 50V 33P	
C302	RCBS1H330JLY	C. CAPACITOR 50V 33P	
C303	RCBS1H150JLY	C. CAPACITOR 50V 15P	
C304	RCBS1H150JLY	C. CAPACITOR 50V 15P	
C305	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C306	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C307	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C308	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C309	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C310	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C311	ECEA1EK3R3B	E. CAPACITOR 25V 3.3U	
C312	ECEA1EK3R3B	E. CAPACITOR 25V 3.3U	
C313	ECEA1CK100B	E. CAPACITOR 16V 10U	
C314	ECEA1CK100B	E. CAPACITOR 16V 10U	
C315	ECEA1HPS010B	E. CAPACITOR 50V 1U	
C316	ECEA1HPS010B	E. CAPACITOR 50V 1U	
C317	ECEA1HK3R3B	E. CAPACITOR 50V 3.3U	
C318	ECEA1HK3R3B	E. CAPACITOR 50V 3.3U	
C319	ECEA1CPS100B	E. CAPACITOR 16V 10U	
C320	ECEA1CPS100B	E. CAPACITOR 16V 10U	
C321	ECEA1HPS3R3B	E. CAPACITOR 50V 3.3U	
C322	ECEA1HPS3R3B	E. CAPACITOR 50V 3.3U	

Ref. No.	Part No.	Part Name & Description	Remarks
C323	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C324	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C325	ECEA1HPS010B	E. CAPACITOR 50V 1U	
C326	ECEA1HPS010B	E. CAPACITOR 50V 1U	
C327	ECFTD473KXL	S. CAPACITOR 25V 0.047U	
C328	ECFTD473KXL	S. CAPACITOR 25V 0.047U	
C329	ECFTD183KXL	S. CAPACITOR 25V 0.018U	
C330	ECFTD183KXL	S. CAPACITOR 25V 0.018U	
C331	ECFTD823KXL	S. CAPACITOR 25V 0.082U	
C332	ECFTD823KXL	S. CAPACITOR 25V 0.082U	
C333	ECFTD332KXL	S. CAPACITOR 25V 3300P	
C334	ECFTD332KXL	S. CAPACITOR 25V 3300P	
C335	ECFTD223KXL	S. CAPACITOR 25V 0.022U	
C336	ECFTD223KXL	S. CAPACITOR 25V 0.022U	
C337	ECEA1CU470B	E. CAPACITOR 16V 47U	
C338	ECEA1EK3R3B	E. CAPACITOR 25V 3.3U	
C339	ECEA1EK3R3B	E. CAPACITOR 25V 3.3U	
C351	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C352	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C353	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C354	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C399	RCBS1H470JLY	C. CAPACITOR 50V 47P	
C501	ECKT1H391KB	C. CAPACITOR 50V 390P	
C502	ECKT1H391KB	C. CAPACITOR 50V 390P	
C503	ECKT1H102KB	C. CAPACITOR 50V 1000P	
C504	ECKT1H102KB	C. CAPACITOR 50V 1000P	
C505	ECEA1CPS220B	E. CAPACITOR 16V 22U	
C506	ECEA1CPS220B	E. CAPACITOR 16V 22U	
C507	ECCT1H150K	C. CAPACITOR 50V 15P	
C508	ECCT1H150K	C. CAPACITOR 50V 15P	
C509	ECKT1H473ZF	C. CAPACITOR 50V 0.047U	
C510	ECKT1H473ZF	C. CAPACITOR 50V 0.047U	
C511	ECKT1H473ZF	C. CAPACITOR 50V 0.047U	
C512	ECKT1H473ZF	C. CAPACITOR 50V 0.047U	
C513	ECEA1CK100B	E. CAPACITOR 16V 10U	
C514	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C515	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C516	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C517	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C518	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C519	ECEA1HU330B	E. CAPACITOR 50V 33U	
C520	ECEA2AU100B	E. CAPACITOR 100V 10U	
C521	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C523	ECEA1HPS3R3B	E. CAPACITOR 50V 3.3U	
C524	ECEA1HPS3R3B	E. CAPACITOR 50V 3.3U	
C551	ECKT1H102ZF	C. CAPACITOR 50V 1000P	(EG)
C552	ECKT1H102ZF	C. CAPACITOR 50V 1000P	(EG)
C553	ECKT1H223ZF	C. CAPACITOR 50V 0.022U	(EG)
C554	ECKT1H223ZF	C. CAPACITOR 50V 0.022U	(EG)
C555	ECKT1H102ZF	C. CAPACITOR 50V 1000P	(EG)
C556	ECKT1H102ZF	C. CAPACITOR 50V 1000P	(EG)
C601	ECEA0JU102E	E. CAPACITOR 6.3V 1000U	
C602	ECBT1E223ZF5	C. CAPACITOR 25V 0.022U	
C603	ECEA1AU470B	E. CAPACITOR 10V 47U	
C604	ECEA1VK330B	E. CAPACITOR 35V 33U	
C605	ECEA1VK330B	E. CAPACITOR 35V 33U	
C607	RCBS1H331KBY	C. CAPACITOR 50V 330P	
C608	RCBS1H331KBY	C. CAPACITOR 50V 330P	
C609	RCBS1H331KBY	C. CAPACITOR 50V 330P	
C610	RCBS1H331KBY	C. CAPACITOR 50V 330P	
C611	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U	
C612	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U	
C615	RCBS1H221KBY	C. CAPACITOR 50V 220P	
C616	RCBS1H221KBY	C. CAPACITOR 50V 220P	
C627	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C651	ECEA1CK100B	E. CAPACITOR 16V 10U	
C652	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C653	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C654	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C655	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C656	ECEA0JU102E	E. CAPACITOR 6.3V 1000U	
C657	ECEA0JU102E	E. CAPACITOR 6.3V 1000U	
C659	RCBS1H331KBY	C. CAPACITOR 50V 330P	
C670	ECEA0JK101B	E. CAPACITOR 6.3V 100U	
C695	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C696	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C697	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C698	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C699	ECBT1E223ZF5	C. CAPACITOR 50V 0.022U	
C701	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	⚠
C702	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	⚠
C703	ECEA1CU470B	E. CAPACITOR 16V 47U	
C704	ECEA1CU470B	E. CAPACITOR 16V 47U	
C705	ECEA1CK220B	E. CAPACITOR 16V 22U	
C706	ECEA1CK220B	E. CAPACITOR 16V 22U	
C707	ECEA1CK100B	E. CAPACITOR 16V 10U	
C708	ECEA1CK100B	E. CAPACITOR 16V 10U	
C709	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U	
C710	ECKT1H473ZF	C. CAPACITOR 50V 0.047U	
C711	ECEA1HU332UE	E. CAPACITOR 50V 3300U	⚠
C712	ECEA1HU332UE	E. CAPACITOR 50V 3300U	⚠
C713	ECKW2H103PE	C. CAPACITOR 500V 0.01U	⚠ (E, E5, EB, GC, GN)
C713	ECQE1104KN	P. CAPACITOR 125V 0.1U	⚠ (EG)
C714	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	⚠
C715	ECEA1VU330B	E. CAPACITOR 35V 33U	
C716	ECEA1VU330B	E. CAPACITOR 35V 33U	
C751	ECKT1H473ZF	C. CAPACITOR 25V 0.047U	
C752	ECBT1E223ZF5	C. CAPACITOR 25V 0.022U	
C753	ECKT1H473ZF	C. CAPACITOR 25V 0.047U	

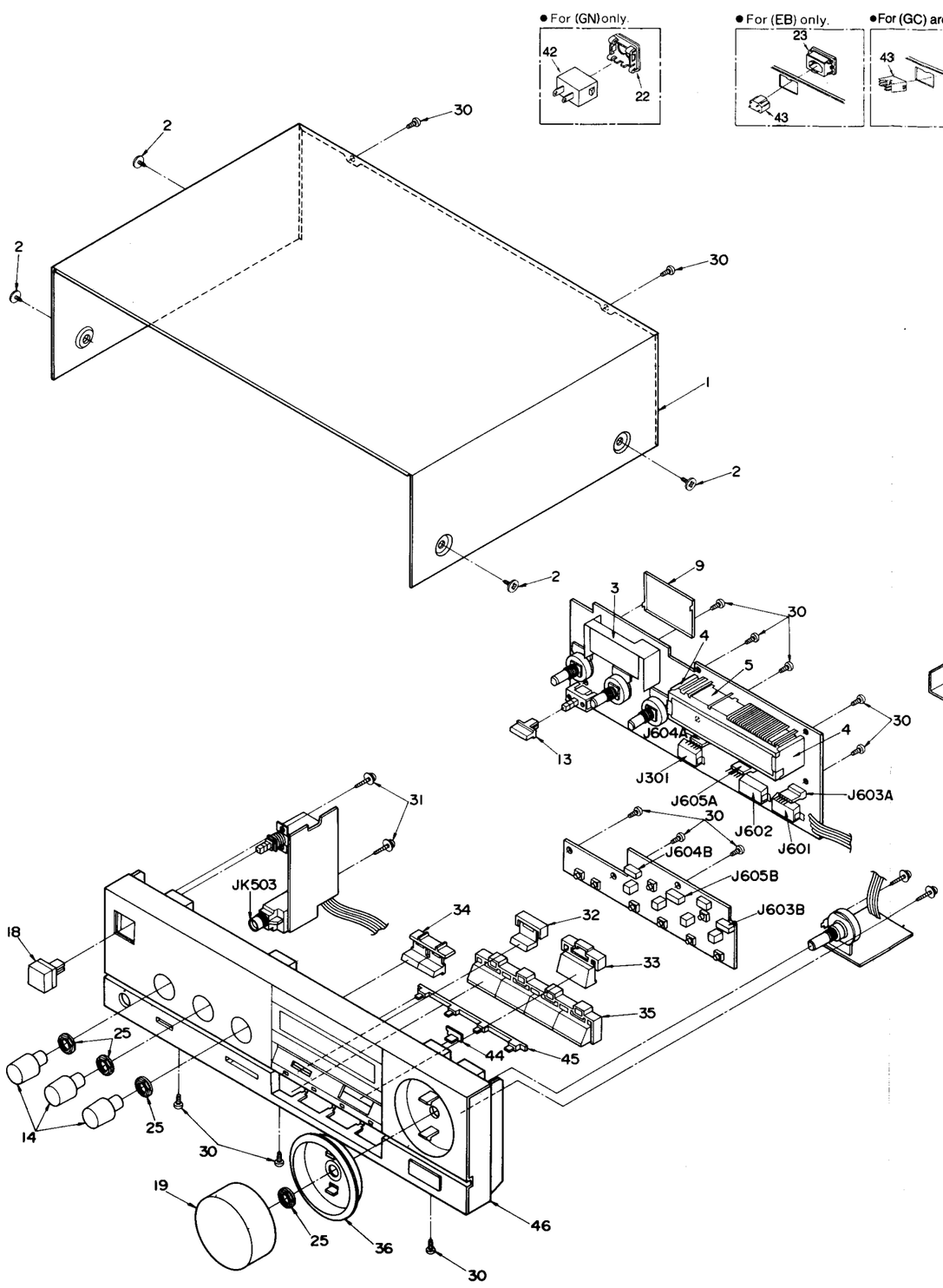
Ref. No.	Part No.	Part Name & Description	Remarks
	.	INTEGRATED CIRCUITS	
IC101	AN6558F	IC, EQ AMP	
IC201	TC9164N	IC, INPUT SELECTOR	
IC202	M5238P	IC, BUFFER AMP	
IC203	AN6554F	IC, SURROUND AMP	
IC301	TC9177P	IC, ELECTRONIC VOLUME	
IC302	AN6552F	IC, BUFFER AMP	
IC303	AN6558F	IC, BUFFER AMP	
IC304	AN6558F	IC, TONE/S. BASS AMP	
IC501	SVI3102B	IC, POWER AMP	⚠
IC601	LC6554D-3230	IC, MICRO COMPUTER	
IC602	MN4030B	IC, LOGIC	
IC603	MN4013B	IC, LOGIC	
IC701	AN78L06	IC, REGULATOR	
		TRANSISTORS	
Q201	2SA1309AQSTA	TRANSISTOR	
Q202	2SD1450QRSTA	TRANSISTOR	
Q203	2SD1450QRSTA	TRANSISTOR	
Q301	2SC3311AQSTA	TRANSISTOR	
Q302	2SC3311AQSTA	TRANSISTOR	
Q501	2SC3114STU	TRANSISTOR	
Q502	2SC3114STU	TRANSISTOR	
Q503	2SA1309AQSTA	TRANSISTOR	
Q504	2SA1309AQSTA	TRANSISTOR	
Q505	2SC3311AQSTA	TRANSISTOR	
Q601	2SA1309AQSTA	TRANSISTOR	
Q602	UN4211TA	TRANSISTOR	
Q603	UN4211TA	TRANSISTOR	
Q604	2SC3311AQSTA	TRANSISTOR	
Q605	UN4211TA	TRANSISTOR	
Q607	2SC3311AQSTA	TRANSISTOR	
Q609	UN4211TA	TRANSISTOR	
Q610	UN4211TA	TRANSISTOR	
Q611	UN4111TA	TRANSISTOR	
Q612	UN4211TA	TRANSISTOR	
Q613	UN4211TA	TRANSISTOR	
Q614	UN4211TA	TRANSISTOR	
Q651	2SC3311AQSTA	TRANSISTOR	
Q701	UN4211TA	TRANSISTOR	
Q702	2SA684QRS	TRANSISTOR	⚠
Q703	2SD1762EF	TRANSISTOR	⚠
Q704	2SB1185EF	TRANSISTOR	⚠
		DIODES	
D301	MA165TA	DIODE	
D302	MA165TA	DIODE	
D303	MA165TA	DIODE	

Ref. No.	Part No.	Part Name & Description	Remarks
D304	MA165TA	DIODE	
D501	MA167TA	DIODE	
D502	MA167TA	DIODE	
D503	MA165TA	DIODE	
D504	MA4051MTA	DIODE	
D505	MA165TA	DIODE	
D601	MA165TA	DIODE	
D606	MA165TA	DIODE	
D607	MA165TA	DIODE	
D608	MA165TA	DIODE	
D609	MA165TA	DIODE	
D610	MA165TA	DIODE	
D611	MA165TA	DIODE	
D613	MA4056MTA	DIODE	
D614	LN873RP-LS	DIODE	
D614	MA165TA	DIODE	
D615	LN873RP-LS	DIODE	
D616	LD-001VR	DIODE	
D617	LN873RP-LS	DIODE	
D618	LN873RP-LS	DIODE	
D620	MA165TA	DIODE	
D651	MA4051MTA	DIODE	
D652	MA4047MTA	DIODE	
D653	MA165TA	DIODE	
D701	MA4150MTA	DIODE	
D702	MA4150MTA	DIODE	
D703	MA165TA	DIODE	
D704	MA167TA	DIODE	⚠
D705	MA167TA	DIODE	⚠
D707	GP15GLF	DIODE	⚠
D708	GP15GLF	DIODE	⚠
D709	GP15GLF	DIODE	⚠
D710	GP15GLF	DIODE	⚠
D713	MA4180MTA	DIODE	
		VARIABLE RESISTORS	
VR301	EWC2XAF20C15	V. R, BASS	
VR302	EWC2XAF20C15	V. R, TREBLE	
VR303	EWCY6AF20C54	V. R, SUPER BASS	
VR601	EVQWX2F2045B	V. R, MAIN VOLUME	
		COMPONENT COMBINATION	
Z601	EXFP8331MW	COMPONENT COMBINATION	
		COILS	
L501	SLQY07G-40	COIL	
L502	SLQY07G-40	COIL	
L551	SLQY07G-40	COIL	(EG)
L552	SLQY07G-40	COIL	(EG)

Ref. No.	Part No.	Part Name & Description	Remarks
L601	RLQZP101KT-Y	COIL	
L602	RLQZP1R2KT-Y	COIL	
L603	ELEXT330KA9	COIL	
L604	ELEXT330KA9	COIL	
L617	RLQZP101KT-Y	COIL	
L618	RLQZP101KT-Y	COIL	
L619	RLQZP101KT-Y	COIL	
L620	RLQZP101KT-Y	COIL	
L651	RLQZP101KT-Y	COIL	
L699	RLQZP101KT-Y	COIL	
L751	RLQZP101KT-Y	COIL	
L752	ELEXT330KA9	COIL	
		OSCILLATORS	
X601	EFOGC3004T4	OSCILLATOR	
		DISPLAY TUBE	
FL601	RSL0013-F	DISPLAY TUBE	
		SWITCHES	
S1	ESB8249V	POWER	⚠
S2	ESE37263	VOLTAGE SELECTOR	⚠(GC)
S601A	SSH1198	SURROUND	
S601	EVQQB005R	INPUT SELECTOER, PHONO	
S602	EVQQB005R	INPUT SELECTOER, TUNER	
S603	EVQQB005R	INPUT SELECTOER, AUX	
S604	EVQQB005R	INPUT SELECTOER, TAPE	
S607	EVQQB005R	BALANCE, L	
S608	EVQQB005R	BALANCE, R	
S609	EVQQB005R	MUTING	
S610	EVQQB005R	INPUT SELECTOER, CD	
		JACKS	
J201	SJT30439MB	CONNECTOR(4P)	
J202	SJT31039MB	CONNECTOR(10P)	
J203	SJS5127&JQ	SOCKET(12P)	
J203	SJT31245JQ	CONNECTOR(12P)	
J204	SJT3215	CONNECTOR(2P)	
J301	RJT003K008M	CONNECTOR(8P)	
J301	RJU003K008M	SOCKET(8P)	
J501	SJT30543-V	CONNECTOR(5P)	
J601	RJT003K010M	CONNECTOR(10P)	
J601	RJU003K010M	SOCKET(10P)	
J602	RJT003K010M	CONNECTOR(10P)	
J602	RJU003K010M	SOCKET(10P)	
J701	SJT30843-V	CONNECTOR(8P)	
J603A	SJT30549BB	CONNECTOR(5P)	
J604A	SJT30549BB	CONNECTOR(5P)	

Ref. No.	Part No.	Part Name & Description	Remarks
J605A	SJT30549BB	CONNECTOR(5P)	
J603B	SJS50581BB	SOCKET(5P)	
J604B	SJS50581BB	SOCKET(5P)	
J605B	SJS50581BB	SOCKET(5P)	
JK501	SJF5406	SP TERMINAL	
JK502	SJF3251	SURROUND SPEAKER TERMINAL	
JK503	SJJ71E	HEADPHONES JACK	
JK601	RJJ33T01	SYNCHRO, TAPE	
JK602	RJJ33T01	SYNCHRO, CD	
JK603	RJJ33T01	SYNCHRO, TURNTABLE	
JK701	SJS306	CONNECTOR(3P), TO DECK	(E, E5, EB, GN, GC)
		FUSE HOLDERS	
FC1, 2	SJT388	FUSE HOLDERS	⚠
FC3, 4	SJT388	FUSE HOLDERS	⚠(E, E5, EG, GC)
		TRANSFORMERS	
T1	RTP1M5E001-V	POWER TRANSFORMER	⚠(E, E5, EG)
T1	RTP1M5B001-V	POWER TRANSFORMER	⚠(EB, GN)
T1	RTP1M5G001-V	POWER TRANSFORMER	⚠(GC)
		FUSES	
F1	XBA2C10TB0	FUSE, 250V T1.0A	⚠(E, E5, EB, EG, GN)
F1	XBA2C20TB0	FUSE, 250V T2.0A	⚠(GC)
F2	XBA2C20TB0	FUSE, 250V T2.0A	⚠(E, E5, EG)
F2	XBA2C10TB0	FUSE, 250V T1.0A	⚠(GC)

■ EXPLODED VIEW



Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RKM0020A-K	CABINET	
2	SNE2129-1	SCREWS	
3	SUW3123-1	SHIELD PLATE	
4	RMN0015	FL HOLDER	
5	RMN0016	FL HOLDER	
6	SJF3068NJ	TERMINAL BOARD (2P)	
7	SJF3069N	TERMINAL BOARD (4P)	
8	SJS306	SOCKET (3P) TO TUNER	
9	SMC1283	SHIELD PLATE	
10	SMC6379	SHIELD PLATE	
11	SMN2043	BRACKET	
12	RGR0013F-A	REAR PANEL	(E)
12	RGR0013F-B	REAR PANEL	(E5)
12	RGR0013A-B	REAR PANEL	(EB)
12	RGR0013G-A	REAR PANEL	(EG)
12	RGR0013J-A	REAR PANEL	(GC)
12	RGR0013H-A	REAR PANEL	(GN)
13	RGU0080	SURROUND BUTTON	
14	RGW0016	TONE KNOB	
15	RKA0011	FOOT	
16	RMK0038	CHASSIS	
17	RJJ33TR01	TERMINAL BOARD, REMOTE OUT	
18	SBC666-1	POWER BUTTON	
19	SBN1224	VOLUME KNOB	
20	SHE187-2	HOLDER	
21	SJP9205-2Y	SHORTING PIN	
22	SJS9231A	AC INLET COVER	(E, E5, EB, EG, GC)
22	SJS9234A	AC INLET COVER	(GN)
23	SJS9333A	AC OUTLET CQVER	(E, E5, EG)
23	SJS9332A	AC OUTLET COVER	(EB)
23	SJS9232A	AC OUTLET COVER	(GC)
24	SNE2123	SCREW(GND)	
25	SNE4021-1	NUT	
26	SUS894	SPRING	
27	XTBS3+8JFZ1	SCREW	
28	XTB3+16J	SCREW	
29	XTB3+20JFZ	SCREW	
30	XTB3+8JFZ	SCREW	
31	XTWS3+8T	SCREW	
32	RGU0081	MUTING BUTTON	
33	RGU0091A	DIRECT BUTTON	
34	RGU0092	BARANCE BUTTON	
35	RGU0106A	SELECTOR BUTTON	
36	SGX9036	ORNAMENT	
37	MDN-4RB4MXA	MOTOR	
38	SHE232	FAN	
39	SHE233	FAN CASE	
40	SHE234	CAP	
41	SUS271	SPRING	

Ref. No.	Part No.	Part Name & Description	Remarks
42	SJS9231-1B	AC INLET	⚠(E, E5, EB, EG, GC)
42	SJS9234B	AC INLET	⚠(GN)
43	SJS9333B	AC OUTLET	⚠(E, E5, EG)
43	SJS9332B	AC OUTLET	⚠(EB)
43	SJS9232B	AC OUTLET	⚠(GC)
44	RGL0044	PANEL LIGHT	
45	RGL0045	PANEL LIGHT	
46	RYP0088	FRONT PANEL	
47	XYN3+C6FZ	SCREW	(GC)
		PACKING MATERIAL	
P1	RPG0265	CARTON BOX	(E, E5, EG, GC, GN)
P1	RPG0278	CARTON BOX	(EB)
P2	RPN0184	PAD	(E, E5, EG, GC, GN)
P2	RPN0164	PAD	(EB)
P3	TUB50RK05W	PROTECTION COVER	
P4	XZB10X30A02	PROTECTION COVER	(E, E5, EG, GC, GN)
P5	SPS5303	ACCESSORIES BOX	(EB)
		ACCESSORIES	
A1	RQF0181	INSTRUCTIONS MANUAL	(E, E5)
A1	RQF0268	INSTRUCTIONS MANUAL	(EB)
A1	RQF0182	INSTRUCTIONS MANUAL	(EG)
A1	RQF0185	INSTRUCTIONS MANUAL	(GC)
A1	RQF0183	INSTRUCTIONS MANUAL	(GN)
A2	SFDAC05E03	AC CORD	⚠(E, E5, EG)
A2	SJA188	AC CORD	⚠(EB)
A2	RJA0004	AC CORD	⚠(GC)
A2	SJA190	AC CORD	⚠(GN)
A3	SJP9215	PLUG	⚠(GC)

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Service Manual

Supplement

Amplifier

SU-X933

Digital Integrated Amplifier

Color

(K)...Black Type

Area

Country Code	Area	Color
(E), (E5)	Continental Europe	(K)
(EB)	Great Britain	
(EG)	F.R. Germany & Italy	
(GC)	Third Region	
(GN)	New Zealand	

Please file and use this manual together with the service manual for Model No. SU-X933, Order No. AD8904097C8. This supplement manual contains the list of parts which are changed in order to improve performance of this unit.

CHANGES

Ref. No.	Change of Part No.		Part Name & Description	Remarks
	Original	**New**		
TRANSISTORS				
Q301, 302	2SC3311AQSTA	**2SC3312R**	SUPER BASS AMP TRANSISTORS	
RESISTORS & CAPACITORS				
R325, 326	ERDS2TJ152T	**ERDS2TJ222**	RESISTORS	
R329, 330	ERDS2TJ224T	**ERDS2TJ683**	RESISTORS	
R331, 332	ERDS2TJ562T	**ERDS2TJ223**	RESISTORS	
C327, 328	ECFTD473KXL	**ECQV1H124JZ3**	CAPACITORS	

Technics

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